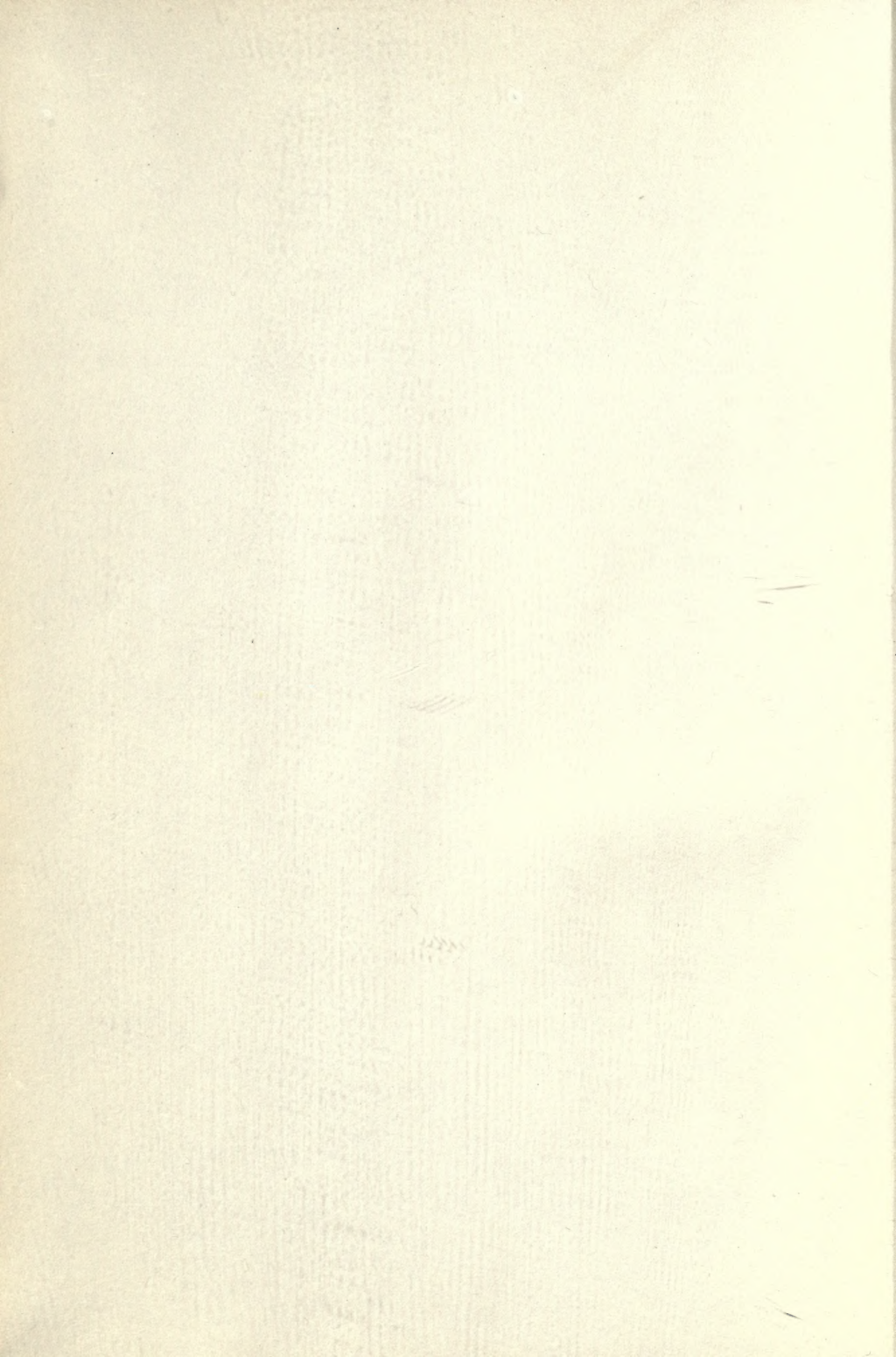
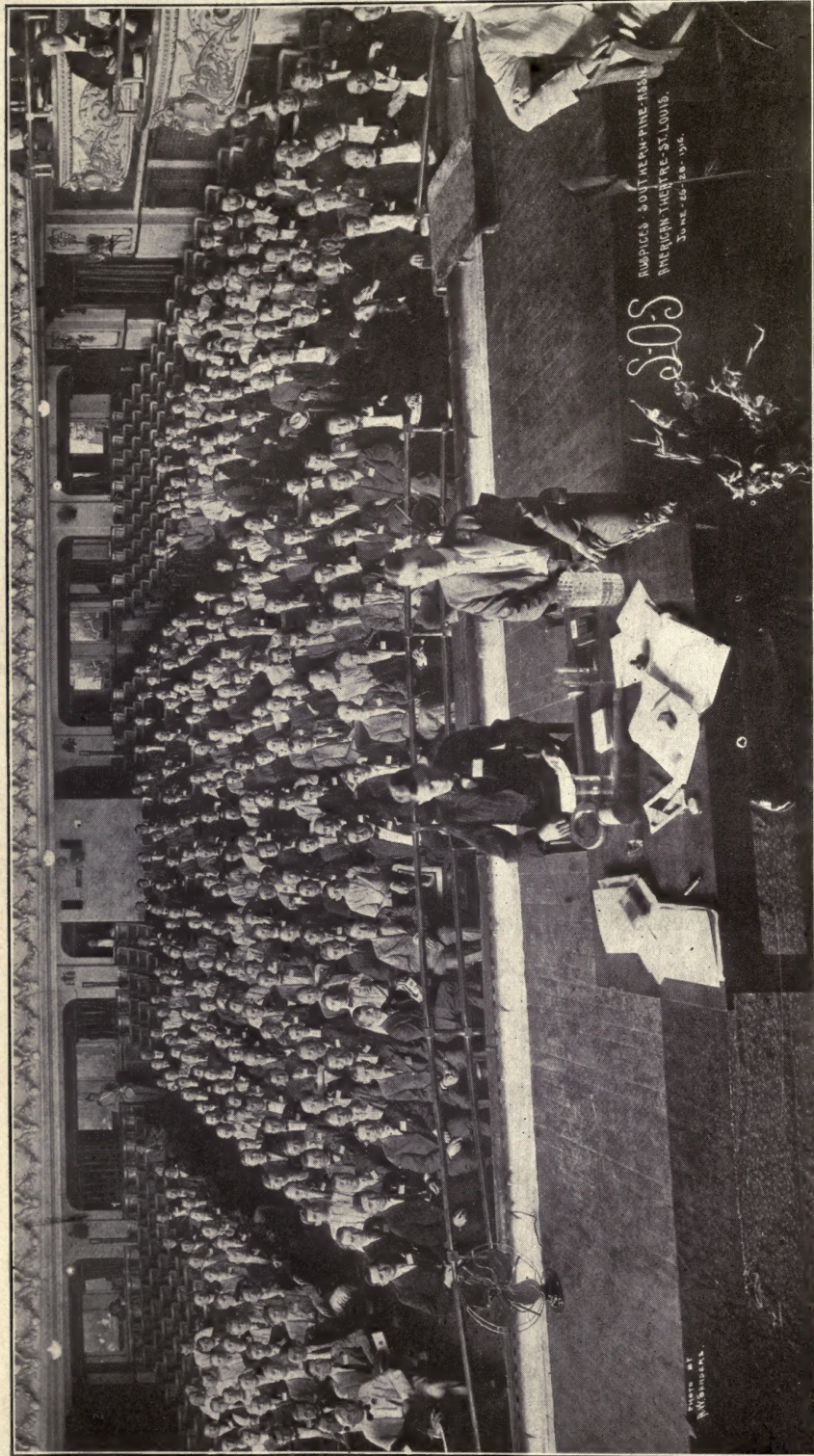


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The School of Salesmanship In Its First Day's Session, at the American Theatre, St. Louis, June 26, 1916.

Selling Lumber

*Being the Full and Complete
Report of the First : : :*

School of Salesmanship

*Held at St. Louis, Missouri,
June 26, 27 and 28 : : :*

1916

UNIVERSITY OF
CALIFORNIA

Under the Auspices of the



SOUTHERN PINE ASSOCIATION

Introductory

IT IS impossible to estimate the value to the Southern Pine industry of the School of Salesmanship, which held its first convention at St. Louis June 26, 27 and 28, 1916. The School would have been worth its trouble and cost if it had accomplished nothing beyond familiarizing lumber salesmen with the aims and activities of the Southern Pine Association, and bringing to each of them an appreciation of the intimate relation of Association work to his individual interests. The wealth of material assembled in the three days' programs constituted a liberal education, not only in methods of salesmanship, but in technical facts concerning the manufacture and use of Southern Yellow Pine. This educational matter is of tremendous importance to the entire industry, and here assembled and published in permanent form serves as an extremely useful handbook and guide for all time to come.

Another important feature of the School of Salesmanship was that its unique character attracted much friendly comment from the daily press, adding materially to that publicity that is doing so much to restore Lumber to its rightful place in the public esteem.

There was ample evidence at the School that those in attendance not only were intensely interested, but that the spirit and intent of the School had given the salesmen a new and broader appreciation of their relation to the Southern Yellow Pine industry and their power to promote a better knowledge of Yellow Pine and its more extended and intelligent use.

Program

School of Salesmanship

Held at St. Louis, Mo., June 26, 27 and 28, 1916

Under the Auspices of the

SOUTHERN PINE ASSOCIATION

FIRST SESSION

Monday Morning

June 26

INVOCATION: Rev. Dr. W. C. Bitting, Pastor Second Baptist Church, St. Louis, Mo.

ADDRESS OF WELCOME: Geo. W. Funck, President The Lumbermen's Exchange, St. Louis, Mo.

ADDRESS OF WELCOME: Julius Seidel, Julius Seidel Lumber Co., St. Louis, Mo.

RESPONSE: "Purpose of Meeting," Harry T. Kendall, Chairman, Committee on Sales and Distribution, Southern Pine Association, Houston, Texas.

ADDRESS: "Organization Means Efficiency," Charles S. Keith, President Southern Pine Association, Kansas City, Mo.

ADDRESS: "What the Southern Pine Association Is," J. E. Rhodes, Secretary-Manager Southern Pine Association, New Orleans, La.

ADDRESS: "Character Judging As a Business Asset," Dr. Stanley L. Krebs, Institute of Mercantile Art, Philadelphia, Pa.

SECOND SESSION

Monday Afternoon

June 26.

QUESTIONNAIRE: Questions answered by Dr. Hermann von Schrenk, Consulting Engineer, Southern Pine Association, St. Louis, Mo.

ADDRESS: "Co-operation with Distributors and Consumers," M. B. Nelson, General Sales Agent, Long-Bell Lumber Co., Kansas City, Mo.

ADDRESS: "What Are the Best Finishes for Yellow Pine for Interior Use?" R. H. Brooks, Manager, Arkansas Soft Pine Bureau, Little Rock, Ark.

ADDRESS: "Painting Yellow Pine," H. A. Gardner, Consulting Engineer, National Paint Manufacturers' Association, Washington, D. C.—(in the absence of the author the address was read by Secretary-Manager J. E. Rhodes).

ADDRESS: "Salesmanship," D. M. Barrett, Editor "Salesmanship" Magazine and General Chairman of "World's Salesmanship Congress," Detroit, Mich.

ADDRESS: "Advantages of a Technical Training in the Lumber Business," S. E. Robinson, Columbus, Ohio.

THIRD SESSION

Tuesday Morning

June 27.

ADDRESS: "Stumpage and Logging Costs," Frank Schopflin, Central Coal & Coke Co., Kansas City, Mo. (in the absence of the author the address was read by Secretary-Manager J. E. Rhodes).

ADDRESS: "Co-operation with Architects and Builders," Jason F. Richardson, Jr., Ottawa, Ill.

ADDRESS: "Saw Mill Costs," C. J. Mansfield, General Manager, Arkansas Lumber Co., Warren, Ark.

ADDRESS: "Yellow Pine Shingles," J. H. Eddy, Chairman, Shingle Committee, Southern Pine Association, Birmingham, Ala.

ADDRESS: "Judging Orders," F. R. Watkins, General Sales Agent, Missouri Lumber and Land Exchange, Kansas City, Mo.

ADDRESS: "Lumber Salesmanship," Edward Hines, Edward Hines Lumber Co., Chicago, Ill.

FOURTH SESSION

Tuesday Afternoon

June 27.

QUESTIONNAIRE: Discussion of questions suggested by Committee on Sales and Distribution.

ADDRESS: "How to Best Cover the Territory," James H. Heyl, Eastman-Gardiner & Co., Columbus, Ohio.

ADDRESS: "The Wooden Silo," J. Lewis Thompson, Chairman Silo Committee, Southern Pine Association, Houston, Texas.

DISCUSSION: Subject—"What is the best disposition to make of short lumber?"

ADDRESS: "Mill Construction," Robert S. Lindstrom, Illinois Chapter, American Institute of Architects, Chicago, Ill.

Arrangements for Territorial Organization.

ADDRESS: "Efficiency," R. J. Tolson, Auditor Wm. Cameron & Co., Inc., Waco, Texas (in the absence of the author the address was read by J. C. Dionne, Editor The Gulf Coast Lumberman).

DISCUSSION: The twenty-three requisites for determining the efficiency of a man in the Lumber Business.

FIFTH SESSION

Wednesday Morning

June 28.

ADDRESS: "Selling Costs, Direct and Indirect," W. M. Beebe, Manager Yellow Pine Department, Long-Bell Lumber Co., Kansas City, Mo.

ADDRESS: "Co-operation from the Saw Mill," Charles E. Martin, Sabine Lumber Co., Cedar Rapids, Iowa.

ADDRESS: "Merits and Limitations of Wood," E. A. Sterling, Manager Extension Bureau, National Lumber Manufacturers' Association, Chicago, Ill.

ADDRESS: "Decay of Yellow Pine Lumber and Methods for Preventing Same," Dr. Hermann von Schrenk, Consulting Engineer, Southern Pine Association, St. Louis, Mo.

ADDRESS: "Possibilities for Mill Refuse," Howard F. Weiss, Director Forest Products Laboratory, U. S. Forest Service, Madison, Wis.

ADDRESS: "Reaching the Consumer," Hugh McVey, Business Manager, "Successful Farming," Des Moines, Iowa.

ADDRESS: General L. C. Boyle, Special Counsel, Southern Pine Association, Kansas City, Mo.

SIXTH SESSION

Wednesday Afternoon

June 28.

QUESTIONNAIRE: Questions were answered by Dr. Hermann von Schrenk and E. A. Sterling.

ADDRESS: "How Salesmen Can Co-operate with the Association," Ben S. Woodhead, President, Beaumont Lumber Co., Beaumont, Texas.

ADDRESS: "The Lumber Salesman and His Possibilities," Capt. J. B. White, President, Missouri Lumber and Land Exchange, Kansas City, Mo.

DISCUSSION: Subject—"Selling Cars in Transit," and other questions.

DISCUSSION: Chief Inspector J. E. Jones answered questions on the Grading and Density rules.

ADJOURNMENT.

The following addresses were prepared for the convention, but were not delivered, owing to lack of time or the absence of the authors. They are reproduced elsewhere in this book.

ADDRESS: "Exploiting Yellow Pine," W. H. Sullivan, Chairman Trade Extension Committee, Southern Pine Association, Bogalusa, La.

ADDRESS: "Why the Salesman Must Know Grades," W. J. Haynen, Chairman Grading Committee, Southern Pine Association, Hattiesburg, Miss.

ADDRESS: "Selling Factory and Industrial Trade," C. W. Myers, W. R. Pickering Lumber Co., Detroit, Mich.

ADDRESS: "Cost from Mill to Car," L. J. Boykin, Gulf Lumber Co., Houston, Texas.

ADDRESS: "Claims and Disputes: Their Causes and Settlement," M. L. Wuescher, Auditor Great Southern Lumber Co., Bogalusa, La.

ADDRESS: "Wood Substitutes," H. S. Sackett, Trade Extension Bureau, National Lumber Manufacturers' Association, Chicago, Ill.

ADDRESS: "Yard Stock Grading Rules," J. W. Martin, Long-Bell Lumber Co., Shreveport, La.

ADDRESS: "Wood Blocks for Interior Floors," A. H. Noyes, Assistant Secretary Ayer & Lord Tie Company, Chicago, Ill.

ADDRESS: "Co-operation from the General Office," W. L. Henry, Chicago Lumber & Coal Co., Springfield, Ill.

ADDRESS: "Advertising," W. J. Ferry, Advertising Manager, Southern Pine Association, Kansas City, Mo.

ADDRESS: "The Density Rule," J. E. Jones, Chief Inspector, Southern Pine Association, New Orleans, La.

Proceedings *of the* School of Salesmanship

A Complete Report of the Activities of the Convention as Recorded by the Official Stenographer

In accordance with a resolution adopted on the 22d day of February, 1916, by the Board of Directors of the Southern Pine Association, providing for the holding of a School of Salesmanship under the direction and control of the Committee on Sales and Distribution of the Association, and pursuant to the notice and call duly issued thereunder by the said committee, the School of Salesmanship was convened at the American Theater, in the City of St. Louis, Missouri, on Monday, the 26th day of June, 1916.

FORENOON SESSION.

Monday, June 26, 1916.

The meeting was called to order at 9:30 o'clock a. m. by Harry T. Kendall, Chairman.

The following officers of the Southern Pine Association were present:

Charles S. Keith, President; J. E. Rhodes, Secretary and Manager; J. H. Eddy, Chairman Shingle Committee; J. Lewis Thompson, Chairman Silo Committee; John L. Kaul, Chairman Paving Block Committee; J. E. Jones, Chief Inspector; W. J. Ferry, Advertising Manager.

There were also in attendance members of the Association, representatives and salesmen of members, and others, a full roster of whom is appended to this report.

The Chairman: Come to order, gentlemen. It is customary to open all of the formal Association meetings with prayer; and I am very much pleased to introduce to you Dr. William C. Bitting, of the Second Baptist Church of this city. I will ask that you all rise during the invocation.

Invocation Dr. Bitting: Almighty God, we pray Thee now that Thou wilt give unto us, in our deliberations, Thy word and Thy wisdom, to fit and inspire us to minister to the necessities of every

land throughout the world. We give Thee hearty thanks that Thou hast called these men together. We thank Thee for Thy holy word. Thou hast made the trees of the field. Thou hast spoken to us about the strength of the oak, about the majesty of the Cedar of Lebanon, about the peacefulness of the olive and the perfection of the pine; and we thank Thee that our Lord Jesus Christ at last consecrated the tree when he hung upon it for our transgressions and was bruised thereon for our iniquities. We ask Thee to grant to us a sense of the sacredness of all things that we handle and with which we deal, that we may not hold back our love of all our work. May we find in it our pleasure, our enthusiasm. May we find that the paths of the toilers of life are not to make a living, but to teach us how to live, and that, better than all the financial gains that come from our daily occupation, may be the manhood that is developed in us through the service of mankind. As we are engaged in our daily discussions, give us strength, and may we be conscious that we are ministering to the welfare of humanity; that out of Thy word come comforts, come so many things that belong to the advancement of the world; and as we stand between the trees of the forest, that clap their hands in praise unto Thee because of their creation for human need and shelter, Oh, God, do Thou grant that we may see ourselves as the ministers of Thy goodness. Do Thou guide these men in all their deliberations. May their studies make them more and more capable, and help them in all their deliberations to secure the welfare of human effort—we ask through Christ Jesus, our Lord. Amen.

The Chairman: Gentlemen, it is my pleasure to introduce to you Mr. George W. Funck, the president of the Lumbermen's Exchange of St. Louis, an organization that is doing good work for the lumber industry of this city. Mr. Funck desires to welcome us to St. Louis. (Applause.)

Mr. Funck: Fellow-lumbermen, I greet you on behalf of the Exchange of St. Louis. The doors are open. I am going to leave the opening address of welcome to my co-worker, Brother Seidel, who will now address you. I thank you. (Applause.)

Address of
Welcome

The Chairman: Gentlemen, it is my pleasure to introduce to you Mr. Julius Seidel, of the Julius Seidel Lumber Company, and also Snark of the Universe, Concatenated Order of Hoo-Hoo. (Applause.)

**Address of
Welcome**

Mr. Seidel: Brother lumbermen, on behalf of the City of St. Louis, and more particularly on behalf of the lumbermen of St. Louis, I extend to you a hearty greeting. There was a time in these affairs when we used George (referring to Mr. Funck), but George fell down completely, and that is why I am here before you this morning. It looks like an old-time home-coming to see you back in St. Louis. It is so long since we had these organizations here in St. Louis that we naturally rejoice as St. Louisians to have you back again in our fold. We will leave nothing undone to make your time pleasant—that is, if there is any time left for that. But I see that Brother Rhodes has got the program so full that I don't think there will be any pleasantries for at least during the day. Now I think that it is quite proper that where we are today making such a strong plea for the use of wood, where we formerly made the plea for the use of an individual kind of lumber, that you ought to be in St. Louis, because I believe that St. Louis, above all cities, has been a school of training in the use of wood. St. Louis was primarily a white pine market, and I remember how slowly the industries commenced to use the other kind of wood when the South opened up its products for use in wood manufacture. I look at the past with a great deal of humor when I think of certain experiences that were passed through. For instance, I remember one concern here that made wooden pickets. They were all made of white pine, and the firm was trying to introduce cottonwood, and when they told their customer they would send him pickets made of cottonwood of course he would not stand for it, because he didn't know any of the qualifications of cottonwood; so finally they made him a gate and he had white pine pickets on either end and cottonwood in the center; and after he had them introduced he could hardly get rid of his white pine. I remember gum lumber very well, because I bumped up against it. I was with a white pine concern that sold white pine lumber for boards. At that time we sold them for \$8.00 delivered to the box factory, and I generally had to take the order with the understanding that it was a very good No. 4. And then came gum lumber, and it was cut 1½-inch thick after it was dry; and they commenced to sell it for \$8.00 a thousand, and of course that hurt the sale of our lumber. And I could relate to you a whole lot of anecdotes of that kind, but I won't do it because our time is limited. But

in order to intensify what I have said about St. Louis being a good market, St. Louis is a market that uses all kinds and grades of lumber. We have here, of yards, thirty pine yards; that is, thirty parent concerns, that use probably sixty yards. Then we have hardwood yards, 27; ties and telegraph poles, 14; we have 18 sawmill offices and 57 wholesalers and jobbers. Now, factories: We have furniture, 20; chair manufacturers, 7; kitchen cabinets, 8; screens, 3; refrigerator and butcher supplies, 7, and mouldings, 4. Packing boxes, 15; freight cars and street cars, 6; planing mills and sash and door factories, 31; stair manufacturers, 5; coffins and caskets, 4; interior finish, 5; bank, store and office fixtures, 21; trunks, 6; cooperage, 10; wagon stock, that is, hubs, spokes, etc., 3; washing machines, 2; veneers and crates, 5; and farm wagons and vehicles, 22. I think that is a pretty good recommendation; that when you meet in St. Louis, you are meeting in a place where we believe in wood and try to promote wood; and I don't know what St. Louis would do if we didn't have the South as an asset to draw these products from.

Now, as I say, it has been so long since we have been here together at St. Louis, that I personally felt, in my talk with Harry T. Kendall, that he had indeed lost the key for the entry into our city; and, furthermore, if you ever use a password—which I don't know as you do—I was quite sure he had also forgotten that; and so (lifting from a table on the platform a very large wooden key, and tendering it to the Chairman) I thought I would present Mr. Kendall this morning a key to the city. I know that your sessions are all during the day, and consequently I give you the key to the city. I don't give you the night-latch key (laughter and applause.) I have also here a gavel (taking up a polished and ornamented wooden gavel, and also presenting it to the Chairman). The handle of this gavel and the turned part is made of long leaf yellow pine, denoting, as you know, immense strength. The tips of the gavel are made of maple, denoting, as you know, endurance. On the end of it I have, "S O S," which is the body of gentlemen that are assembled here, and denotes intelligence, or a school of salesmanship where we want intelligence to win. A gavel is used at meetings for a matter of discipline. It means, when wielded properly in the hands of a chairman, equal justice to all. In presenting it to Mr. Kendall I know that he will wield it in the interests of lumber. When, therefore, you

**Presentation
of Gavel
and Key**

have intelligence, fostered by education, and you have strength of purpose in your convictions also, backed up by endurance—for this is only the initial meeting, and we must persist in attending these meetings, if we intend to endure—all of these qualifications, when in the hand of a proper chairman will mean, instead of school of salesmanship, S O S will mean, hereafter, S O S, standing for *Sure of Success*. I present this to Mr. Kendall with my heartiest wishes. You know I have always been for lumber. I wish you God speed in your deliberations. . And I want you to understand that St. Louis will always welcome you. We will do all we can to bring you back. I desire to thank you all for your attention. (Applause.)

The Chairman: Mr. Funk, and Mr. Seidel, the Southern Pine Association and the School of Salesmanship greatly appreciate the welcome which you have extended to us. We are very glad to be in St. Louis, because we wanted to come to St. Louis, and because St. Louis is the logical place to come to. We have not failed to appreciate the size of your lumber market, nor the importance of St. Louis to the Yellow Pine industry. We are exceedingly glad to be with you, and I wish to particularly thank you for your thoughtfulness in presenting us with the gavel to be used during our deliberations. And I sincerely hope that if future meetings of this character are held, that we may come to St. Louis. The Southern Pine Association desires that the purposes of this meeting be fully understood, and that the lines along which it is conducted be in strict accordance with those purposes. In order that this may be done, I desire to read a paper covering briefly what we are here to do.

Response to
Address of
Welcome

The School of Salesmanship was born of the Southern Pine Association's purpose to increase the use of yellow pine in this and foreign countries and thereby advance the yellow pine industry.

This to be done in strict conformity with well established business principles and in perfect compliance with all laws, rules and regulations of an honorable business, with the highest standards of probity and business integrity.

Three guiding stars to the School of Salesmanship will occur to every thoughtful person.

First—The unquestioned integrity of the salesman with unblemished reputation, and the School behind him ever urging on

The Purpose
of the Meeting

to increased activity and successful achievements.

Second—The knowledge that he is offering to the consumer an article of trade beyond compare with all other commodities.

Third—The new uses and purposes to which the same is continually adapted, in a majority of instances heretofore unknown.

With these standards, business will be augmented and the price regulated by a proper appreciation of the advantages and uses of yellow pine, resulting in increased demand and general consumption.

The Chairman: When the Southern Pine Association offered its services to the Yellow Pine industry, the stockholders of the corporation in their prospectus, offered to do certain things. *They have done these things and many more*, but one of the greatest things the Southern Pine Association did for the industry was one of the things *not noted in the prospectus*, namely the giving to the industry the time and brain of its first president. Only those who have been more *closely associated* with the Southern Pine Association know how much the Association *demand*ed of its president, and how much *more was given*. If there is anything to the saying that "He who profits most serves most," it would not be possible to measure the return that should properly reach the hands of Mr. Keith. Mr. Keith is not only a man of large vision, but a man with the ability and decision to execute his ideas. He is known to all of you by name and most of you personally. To those who do not know him permit me to introduce Mr. Keith as organizer of the Southern Pine Association and its first president.

President
Keith
Introduced

Mr. Keith: I wish to take this occasion to say that it affords me great pleasure to look into the faces of the men in whose hands the destiny of our companies rest. That may seem to you to be a big order, but the first instruction that I had when I started in to sell the product of our company was that the profits of the company rested with me. Our company then pursued the practice which it still pursues, of charging to its sales department the cost of the production and cost of manufacturing, leaving no earning for that department whatever, but leaving all the earnings in the hands of the sales department, and the sales manager is held responsible entirely for the results. I want to impress upon you

**Mr. Keith
Talks on
Organization**

gentlemen here, that there is where the greatest need of our trade rests today. I want to call your attention to the fact that many of us have reached the conclusion that our loyalty rests more with our trade than it does with our company; but I think our loyalty rests with each.

I sometimes think it a disadvantage to which the lumber salesman is subjected, that he has no knowledge as to what the lumber he is selling costs. His employer has no knowledge of that. We know what it costs to produce a thousand feet of lumber, but we do not know what it costs for the various items we are selling; and consequently we are in competition, selling our product on the representation which our trade makes as to what someone else is willing to sell it for.

**The Purpose
In Organizing
The Southern
Pine Association**

The Southern Pine Association was organized for the purpose of educating ourselves and the public. We were confronted with a situation where everybody believed there existed in this country a lumber trust, though each one of us knew that in the past ten years, had we properly accounted our costs, there was not a man in the business who had made a dollar.

So, the first thing we had to do was to undertake to convince the public that there was no lumber trust. That we undertook to do in a campaign of publicity and advertising, and by presentation of the facts of our industry before the Federal Trade Commission, bringing out in detail, clearly and plainly, the economic condition of our industry, and we have accomplished that purpose; we have not seen anything in the papers now for over a year of the lumber trust. I think we have educated the public, and I certainly believe that we have succeeded in impressing the Federal Trade Commission with the facts concerning our industry.

**The Task of
Educating
Ourselves**

Along with this work comes the question of educating ourselves; educating the manufacturer, and through the manufacturer educating his salesmen. We did not know the volume of business that was done, the amount of lumber that was manufactured, nor any of the economic conditions of our business. Today we have that information; not as fully as we would like to have it, but at the same time more fully than we have ever had it before. In the future, instead of representative information, we hope to have accurate and full information. There is a distinction between the two. For instance, in our Association today we have manu-

facturers representing practically one-half of the entire production of Yellow Pine, and the information secured from them is representative. If we had them all, we would have accurate information. There are many thousands of feet of lumber produced of which we have no information whatever, and we can only judge from the information that we have as to what the situation as a whole may be, and our judgment in that direction may be more or less wrong, because it is not full and complete.

The next thought was to educate ourselves as to what it costs to produce our lumber on a system of uniform method of accounting. We entered into that campaign, and today we have some eighty companies which are accounting their costs on a uniform basis, and we know to that extent what the cost of production is. But that is simply the initial step. We must go further. We do not all use the same charges. For instance, in our cost of stumpage, our stumpage charges range from \$2 to \$7 per thousand. We know that \$2 is not enough, and our judgment is that \$7 is nearer right than \$2, because we cannot replace our stumpage at a value which is very much less than the latter figure; and those who have bought their stumpage in the last four or five years at values ranging from \$4.50 to \$5.50, find themselves confronted today with a cost of practically \$7. Then there is the question of overrun and the method of measurement. Our stumpage account shows that our overrun ranges from 5 to 58½ per cent. We have reason to believe that 5 per cent is not correct, and that 58½ per cent is not correct, either; but that the average yield in board measure over log scale is approximately 19 per cent. So it is out of line, as between 5 per cent and 58 per cent, showing a difference, at the same charge for stumpage (using \$6.00 as a basis) of \$1.50 per thousand in the finished cost of manufacture; and yet it is merely a question of method of measuring your stumpage. There is no such difference in the actual cost of the finished product. We hope to succeed in our effort to bring about, first, a uniform charge for stumpage; and second, a uniform method of measuring our stumpage, so that we may be able to have something approaching or approximating accurate cost in that direction.

**A Start
Toward Uni-
form Account-
ing Methods**

After we have secured that, the next question that confronts us is the question of taking into our costs our proper fixed charges: interest on our investment, taxes, insurance, sales, the

**The Question
of Proper
Fixed Charges**

manufacturing cost and selling cost, so that we may arrive finally at the average cost; and we will then have simply gotten to a starting point in the securing of the average cost of manufacturing the entire product. Beyond that is the question of distribution—of the average cost of manufacture to each item produced.

**The Problem
of Getting a
Profit**

And then our thought is to bring home to you, to bring home to our sales departments, this fact, that we must have a yield; that we must have a percentage return on our investment. It would be well to illustrate just what we mean here. Assuming that today it would cost \$6.00 per thousand to buy the tract of timber we are going to operate, and \$1.25 per thousand to develop it, and that we are going to have a ten-year operation for a thirty million feet capacity plant, in such a case we would have an investment of \$1,800,000 in timber, and we would have \$375,000 in the plant account, or, say, a \$2,100,000 total investment. Now, in order to secure a reasonable return, we should have at least 10 per cent on our money, as money is worth 6 per cent anywhere you put it, which would be \$210,000 as a return on an investment of \$2,100,000; and on an output of thirty million feet we would have to have \$7.00 per thousand over and above the manufacturing cost of \$14.50, or \$21.50 per thousand, in order to make this investment yield us a return of 10 per cent.

In the past we have seen the value of stumpage in the South range from \$3.00 per acre to \$90.00 per acre, and this increase in the value of our stumpage has carried our cost up. Whereas in 1909 our stumpage was worth \$4.00 per thousand—that was seven years ago—today it is worth \$6.00 per thousand, having advanced 50 per cent in the past seven years. If you will figure your stumpage at its cost seven years ago of \$4.00 per thousand, with interest and taxes compounded, you will find that your cost of this timber is in excess of \$6.00 today, and in the future that situation is going to become more pronounced than it has in the last seven years.

**Denied the
Use of
Remedies**

Now, after we have secured all the information, we are frequently unable to apply the remedy which we should apply by reason of our failure or inability to agree on some uniform method of action. That is due to the present state of our laws. We have had that situation in mind, and during the campaign which we have been conducting before the Federal Trade Commission the thought occurred to a few of us to see if we could not secure

some remedial legislation to permit in this country the German cartel system as relates to the primary natural resources, with the idea that it might be extended to include all lines of business. I think we are daily impressed with the efficiency which the Germans have brought about, not only from a military point of view, but from an economic point of view as well.

With that ideal in view, I had the pleasure of sitting in council in Washington on the 5th of last month, representing several of the committee of the Chamber of Commerce of the United States of America, in conjunction with the Federation of Labor, and there we agreed to seek to secure legislation to permit of co-operative agreements in all industries involving the primary natural resources. (Applause.) At that council a sub-committee was appointed, the members of which agreed on a bill which represented concretely their thought; the provisions of which are to the effect that all the primary natural resources—but perhaps it would be better for me to read this proposed bill rather than to try to repeat it from memory. Our idea was to amend the Federal Trade Commission act to permit of this condition, so that such agreements would be under governmental regulation in the interests of the public. (Reading.)

**A Plan to
Enlist Govern-
ment Aid**

AN ACT.

To amend the Federal Trade Commission Act by permitting under its jurisdiction agreements between industries engaged in the development of natural resources in order to conserve such resources, protect human life, and lessen accidents.

**Text of
Proposed
Amendment**

Be it Enacted by the Senate and the House of Representatives in Congress Assembled, That Section 11 of the Act entitled "An Act to create a Federal Trade Commission, to define its powers and duties, and for other purposes," approved September 26th, 1914, is hereby amended by addition of the words, "except as hereinafter provided," so as to read as follows:

"Sec. 11. Nothing contained in this Act shall be construed to prevent or interfere with the enforcement of the provisions of the anti-trust Acts or the Acts to regulate commerce, nor shall anything contained in the Act be construed to alter, modify or repeal the said anti-trust Act or the

Acts to regulate commerce, or any part or parts thereof, except as hereinafter provided."

Sec. 2. That the Act entitled "An Act to create a Federal Trade Commission, to define its powers and duties, and for other purposes," approved September 26th, 1914, is hereby further amended by the addition of the following sections:

Sec. 12. That ores and deposits of precious and useful metals, minerals which are a source of heat, light, or power, and timber, together with the immediate products of said ores, deposits, minerals, and timber through which same first become available for beneficial utilization, are hereby defined for the purposes of Sections 12 and 13 of this Act as national resources, and their efficient utilization in the industries, arts, and sciences is hereby declared to be in the public interest.

Sec. 13. Contracts and agreements among persons, associations, or corporations engaged in developing national resources as articles of commerce among the several states shall be lawful when such contracts and agreements tend to utilize and conserve the national resources, protect human life, lessen accidents, and further the public interest; *Provided*, That such contracts and agreements shall have been filed with the commission at least sixty days in advance of the date of their effect, and shall have been accompanied by a statement of the situation resulting in the contract or agreement and the purposes to be accomplished thereby; all such contracts, agreements, and statements filed with the commission shall be public records, accessible during ordinary business hours; *Provided further*, That whenever the commission shall have reason to believe, either because of its own investigations or because of complaint made to it by any person, that any such contract or agreement does not in fact tend to utilize and conserve the national resources, protect human life, lessen accidents, or further the public interest, it shall issue and serve upon the parties thereto a notice to show cause why the contract or agreement should not be declared as outside the provisions of Sections 12 and 13 of this Act. If upon such hearing the commission shall be of the opinion that the contract or agreement in ques-

tion is outside the provisions of Sections 12 and 13 of this Act, it shall issue its order to that effect, make a report in writing, and serve copies of the order and report upon the parties to the contract or agreement.

If you will notice, in the platforms of both the Democratic and Republican parties this thought is included under the heading of "Conservation." Last week at the meeting of the board of directors of the Chamber of Commerce of the United States of America in Minneapolis, the board approved the action of its committee, and the matter has now been ordered to a referendum. But this is simply a starting point. After we secure the desired remedial legislation, then we can take the necessary steps to enter into a contract, under government regulation, so as to stabilize our industry and put it on its feet.

**A Step
Toward
Stabilizing
the Lumber
Industry**

Gentlemen, I regret that I did not have time to prepare for you a co-ordinated talk, but before passing I want to carry to your minds one further thought, and that is: At the beginning of the last century in all of our transportation facilities our power was hand power, wind power and water power. There was no such thing as steam and electricity. With the advent of steam and electricity has come the development of transportation and communication to such an extent that now all parts of the world are in immediate communication with each other. In the earlier days individualism was the cry. The old saw, that "Competition Is the Life of Trade," had some truth in it at that time. Today competition, unintelligent competition, such as we have been forced to have, through the improper understanding of our economic conditions, enforced upon us by our lawmakers, has practically had the effect of injuring very nearly all lines of trade. To my mind, this is especially emphasized in the findings of the Federal Trade Commission as quoted below from an address of Mr. E. N. Hurley before the Public Affairs Committee of the Kansas City Commercial Club on June 26th, 1916:

**Times
Change in
Trade
Conditions**

"Leaving out of consideration the banking, railroad and public utilities corporations, and referring only to those that have to do with trade and industry, we find that there are about 250,000 business corporations in the country. The astonishing thing is that over 100,000 of these report no net income whatever. In addition, 90,000 make less than \$5,000

a year, while only the 60,000 remaining, the more successful ones, make \$5,000 a year and over."

From this, it can be readily seen that we really have not been in a prosperous condition; and, furthermore, we are never going to be in a prosperous condition until we have more co-operation and a more complete understanding of our conditions than we have had. We will have to bring that condition about in a perfectly legal way, of course, and we want the co-operation of the men who work for us, the men who sell our products. We want you to believe and we want you to think that there are no secrets in our business; that the more you can talk to your fellow salesman, the more you can bring home to him the prices at which you are selling your product and the amount of sales which you are making, and the more you can help one another (without any agreement as to prices, but simply the question as to prices at which your product has been sold), the better off we will all be. I believe we are going to have a better condition, a better understanding, and more profits in our business. Gentlemen, I thank you. (Applause.)

Mr. Keith, after retiring, again advanced to the front of the stage and said:

I wish to say, as President of the Southern Pine Association, that we greatly appreciate the presence in our midst today of our brothers from the other branches of the industry, and we wish to extend to them our cordial welcome.

The Chairman: No matter how brilliant the chief of staff, or how far-reaching the president, he must have a field management. The Southern Pine Association is exceedingly fortunate in being able to command the services of Mr. John E. Rhodes. Mr. Rhodes came to the Southern Pine Association with years of training, and success immediately followed his "Service" banner. It is going to be my pleasure to introduce Mr. Rhodes to you, but this introduction will serve only to introduce Mr. Rhodes to you, and not you to Mr. Rhodes. I would like very much if all of you, some time during the meeting, would take time to go to Mr. Rhodes and introduce yourselves to him and assure him that you are back of him in the great work he is endeavoring to do for the Yellow Pine industry. Mr. Rhodes! (Applause.)

Mr. Rhodes: Mr. Chairman and Gentlemen—I greatly appreciate the introduction of the chairman. Needless to say, it will

**No Secrets
in the Lumber
Business**

**A Welcome
to Visitors**

**Mr. Rhodes
Is Introduced**

give me very great pleasure indeed to meet as many of those attending the school as possible. I shall speak to you briefly upon what the Southern Pine Association is.

(See Mr. Rhodes's address in full, page 115).

Mr. Seidel: Gentlemen, there was an omission on my part, rather inadvertently. But in order to be fair to the lumber interests, I ask leave to state that the handle of this gavel is of long leaf yellow pine, denoting strength; and it is almost unnecessary for me to say that the head of the gavel is Arkansas Yellow Pine, denoting beauty. (Applause.)

The Chairman: I want to further what Mr. Rhodes said about the distribution of literature, and to particularly ask that all of you look over the tables containing literature in the foyer of the theater. You will find a great deal of literature that has to do with some of the very technical papers that will follow in this program, a good deal of information that would be too technical to give you in any other way except in printed form. You will also note, at the entrance of the theater, a question box. We will ask that all of you put in this box any question that may occur to you that you would like to have answered. We intend to refer these questions to a board of examiners, and we will endeavor to have each question answered by an expert. For example, we are referring all engineering questions to Dr. Hermann von Schrenk, questions involving grades and inspection to Mr. J. E. Jones, other questions to Mr. Sterling, and so on, and each question will be answered by an expert in his particular line. To give you an example of the kind of questions we are getting, I want to read a few that have already been handed in. Now, we will not agree to answer all of these questions, and furthermore, we know that perhaps some of our answers will either not be complete, or, perhaps, exact, in accordance with the information that you have given us. We are going to submit a great many of these questions to you as a body, for your discussion, because we are having questions already handed in that cannot be answered except by the salesmen themselves. Here are some of the questions:

What specifications are to govern: Those written by the salesman and on the copy left with the buyer, or the buyer's confirmation?

**An Invitation
to Ask
Questions**

On an order sent in by a salesman is it better to write the customer or the salesman in case the sales office wishes to make any correction or seeks any additional information before entering the order?

Why is a 1x6 worth more than a 2x6 of the same grade?

Does treatment of wood increase its strength or durability? If either, why?

What relation has pitch to the durability of timber?

What is the advantage to the mill in dressing common boards two sides instead of one side?

What does it cost to trim lumber from standard length?

Why is a 2x4—12 listed higher than a 2x4—14 and 16?

What is summer wood?

Why should orders be signed by purchasers?

What are the best methods of finishing Yellow Pine for interior use?

Why don't Yellow Pine mills match their flooring?

What is the objection to specified lengths on moulding?

What weight should a salesman use when selling stock surfaced two sides, and one inch thick, and sold as one inch common?

How soon should an order for ordinary yard stock be shipped to come within the meaning of "prompt shipment?"

Now, gentlemen, I presume that you all have some questions, and we will attempt to answer all of them at the conclusion of our set program, when we are going to throw the meeting open for general discussion. The gentlemen to whom these questions are referred will come on the platform and answer the question. If you have any suggestions to make, we want you to get right up and tell us what is what, because there are a great many problems here we would like to solve, if possible.

I want to call your attention to the banquet tonight. I believe you are going to see the very best show that was ever put on in the lumber business. The newspaper men have been here ever since Tuesday arranging a program for this affair. It is going to be a very elaborate program, and although it may keep you all up pretty late, I think you will be repaid for the investment of time.

I also wish to say that there will be a meeting of the Committee on Sales and Distribution immediately after the conclusion of this session.

I thought I was going to be compelled to disappoint you gentlemen this morning, in announcing the inability of Mr. W. H. Sullivan to come to the school, on account of some unfortunate matters that came up at the last moment, and we had arranged for another speaker to present his subject. Mr. Sullivan, however, has wired that he will be here Wednesday, and we will postpone his paper until he can be here to address you himself, as I want to have the pleasure of introducing him to you, because he is the chairman of the Trade Extension Committee of the Association, and a man who has in his charge a great number of Association activities.

When the committee began to seek some one in the lumber industry to address you on Salesmanship, among those we were advised strongly not to overlook was Dr. Stanley L. Krebs, of the Institute of Mercantile Art, Philadelphia. Dr. Krebs came to Houston the early part of this year and delivered the same address he will deliver here. The citizens of Houston were so taken up with Dr. Krebs and his work that they immediately arranged for him to come back to Houston and deliver a series of lectures covering a two weeks period. I believe you will all be amply repaid for giving Dr. Krebs the closest attention. The Doctor has had charge of large sales organizations, and is familiar with the mode of making sales from start to finish, and you can't put anything over on the Doctor. (Applause.)

**Introducing
Dr. Krebs**

Dr. Krebs: Mr. President, Members of the Southern Pine Salesmen's Association, Ladies and Gentlemen:—I don't believe I have overlooked any fool present. "What fools we mortals be," at any rate, as the great poet said.

(Dr. Krebs's address in full, page 124).

The Chairman: I am sure I don't know how we can thank Dr. Krebs for what he has said.

Mr. Hines: I would like to move now a rising vote of thanks to the Doctor.

The Chairman: You have heard Mr. Hines' motion, gentlemen. I am sure it will be made unanimous. All those in favor of giving the Doctor a vote of thanks will please stand up.

**A Vote of
Thanks for
Dr. Krebs**

(All stand and applaud.)

The Chairman: As I started to say, before Mr. Hines so thoughtfully provided for the vote of thanks for the Doctor, I don't know how the school of salesmanship can thank him. But I do think that the people of Houston are going to be very fortunate next October, when he is going to be with us for two weeks.

Dr. Krebs: Thank you, Mr. Kendall.

The Chairman: I wish to say that those who have not secured banquet tickets had better do so immediately. There are only four hundred tickets. No reservations will be held after 1:00 o'clock, as the lumbermen of St. Louis desire to take up all of the unsold seats. You can get the banquet tickets only in the foyer from now on. Gentlemen, we stand adjourned until 2:00 o'clock—and please be prompt.

(At this point, at 12:40 o'clock p. m., the school took a recess until 2:00 o'clock p. m. of the same day.)

AFTERNOON SESSION.

Monday, June 26, 1916.

At 2:00 o'clock p. m. the meeting was called to order by Harry T. Kendall, Chairman.

The Chairman: Gentlemen, it gives me pleasure to introduce to you Dr. Hermann von Schrenk, consulting engineer of the Southern Pine Association, who will read and proceed to answer certain of the questions that have been placed in the question box. (Applause.)

Dr. von Schrenk: Does the treatment of wood increase its strength and durability? If either, why?

The answer to that is, that no treatment will increase the strength. The inherent strength of wood fibre cannot be increased by any process of treatment beyond that which it originally has. As to durability, practically every acceptable form of chemical preservation will increase its durability. I will have a good deal more to say in answering that question tomorrow. In general, I might say that if wood is properly treated chemically, its durability may be increased anywhere from twice to an indefinite length of life.

Second question: What relation has pitch to the durability of timber?

In general it may be said that pitch, in and of itself, has no relation to the increase or decrease of the durability of timber. If the pitch percentage cease at ten or fifteen per cent, or more, as in cut pieces from turpentine logs, the durability would be very ma-

terially increased; but to take pitch as a standard of durability at the present time, so far as we know, is impracticable.

What is summer wood?

A pine tree, as it grows, forms two classes of wood, physical classes of wood, every year. From the time that the leaves start to grow in the spring, in March, until about the latter part of June or July, it forms a light-colored, very porous class of wood, which is called spring wood. From about the end of July to the end of the season's growth it forms a very much denser class of wood, which, as you look at it in cross-section, is dark, more or less resinous, flinty when you cut it with a knife, and that part is called summer wood. In other words, each annual ring is composed of two different bands—a light-colored band of spring wood, and a dark-colored, hard, resinous band called summer wood. It is essentially the summer wood which gives the high strength value to different classes of pine. The higher the percentage of summer wood in the ring, the stronger the stick.

**Strength
in Summer
Wood**

Why is heart stock more suitable for construction when used in moist places?

The answer to that is, the relative resisting power of heart and sap wood. Sap wood, of practically all species of pine, when used in construction work, would decay in a comparatively short time. If it is subjected to moisture at all, it probably will not last more than three or four years, particularly in the Southern states. Heart wood, on the other hand, has a much higher resisting power, and that is true, irrespective of whether it is loblolly, short leaf pine, long leaf pine, Cuban pine, or what not. Hence, when more or less permanent structures are built, the specifications usually require that the sticks shall be almost wholly of heart wood.

How is a salesman to determine the difference between long and short leaf after it has been manufactured?

**Identifying
Variety in
Lumber**

The answer to that is very simple. He can't do it. (Laughter.) Gentlemen, that probably is one of the most vexing problems which the pine industry has had to meet for years: I trust, before the end of these sessions, we will hear a good deal about the practicability of applying the new density rule. The pine tree growing in the South, as it grows is botanically divided into probably five or six species. The fibers of those woods are practically identical, and the only difference in the timber is in the per cent of actual

Identifying
Species
"By the
Feel"

fiber per cubic foot of wood. In other words, the physical, chemical and structural characteristics of the wood fiber of the individual species is almost the same, and they are very, very difficult to separate. Consequently, while it is easy enough to distinguish between a short leaf and a long leaf piece in the tree, when it has once been cut such characteristics as rate of growth and density of wood per cubic foot, when told by the eye, are absolutely beyond any kind of method of determination accurately—and I care not who says that can be done. For illustration, some years ago I had a group of thirty or forty yellow pine men who told me that they could tell by the feel of it. I ran them up against a pile of one hundred logs around there, and asked them to distinguish the long leaf from the short leaf. I had as many results as there were men. Every stick in the pile was cut 150 miles north of Ft. Smith, Arkansas, and there was not a long leaf or short leaf tree within 150 miles of the place. You can tell anybody who asks you how to determine the difference between long and short leaf pine after it has been made into lumber that it can't be done. It is physically impossible.

The Chairman: I hope, gentlemen, if any other questions of this character occur to you, that you will let us have them as promptly as possible, and we will endeavor to answer just as many of them as we can. It is very apparent, however, to us, from the number of questions that are being turned in, that it is going to be a physical impossibility for us to attempt to answer them all now, or open them for discussion. We will, however, print an answer to every question that we can answer in the printed proceedings, so it will give you something to look for when you receive the volumes. From the looks of things, the printed proceedings of this school is going to be about the size of a young dictionary.

Introducing
Mr. Nelson

The next speaker on the program—and we are going to vary some from the printed program, owing to disappointment—is a man who holds a very unique position in the yellow pine industry. I shall introduce to you Mr. M. B. Nelson, sales manager of the Long-Bell Lumber Company, of Kansas City, Mo., a man who has sold more yellow pine than any other one man in the industry. I can assure you that Mr. Nelson has held his position through ability; and what he has to say now on the subject may be considered as authoritative. (Applause.)

Mr. Nelson (after taking a drink of water): I am not drinking that because I like it, but just because it had such an effect on Dr. Krebs. (Laughter.)

I think Mr. Kendall is very kind to me when he says I sold it. I expect there are some salesmen here that won't give me credit for that. (Laughter.)

(For Mr. Nelson's paper in full, see page 150).

The Chairman: One of the best known organizations in the yellow pine trade is the Arkansas Soft Pine Bureau. The members of this bureau, who are also members of the Southern Pine Association, have been spending a great deal of money to introduce their products, and, incidentally, the use of yellow pine finish throughout the consuming territory. The manager of this bureau, Mr. R. H. Brooks, will address you on the subject of yellow pine finish and its possibilities.

Mr. Brooks: Mr. Funck, this morning, in addressing you, dwelt for a moment on the subject of enthusiasm for the article you sell. It is, however, important that in becoming enthusiastic over the product you sell, you should be pretty sure you are selling it for the purpose to which it is adapted. This brief paper I am going to read you is predicated on the thought that part of your wood is best adapted to one purpose, and part of it to another. In other words, that short leaf makes a better interior finish than long leaf, and long leaf is better than short leaf for outside work. Our wood is short leaf, but you are not to take exception to the comparisons I make, because these remarks are made only in the recognition of the fact that we are trying to emphasize the right wood for the right purpose.

**Mr. Brooks
on Interior
Finish**

(For Mr. Brooks's paper in full, see page 277).

The Chairman: The subject on the program, "Painting Yellow Pine," by Mr. H. A. Gardner, consulting engineer of the National Paint Manufacturers' Association, consists of a series of lantern slides. Mr. Rhodes will read Dr. Gardner's comments upon these slides; and if you will wait just a minute we will darken the house and throw these slides on a screen.

**A Lecture
on Painting
Yellow Pine**

(At this point the house was darkened; a series of pictures was thrown on a screen, and *pari passu* therewith Mr. Rhodes read the paper on "Painting Yellow Pine," by Mr. H. A. Gardner, which is reproduced in full on page 378.)

The Chairman: We are very fortunate to have with us today one of the busiest men in the United States, who is forced to divide his time among many engagements. He is editor of the Salesmanship Magazine, one of the most prominent magazines of its character in this country, and also general chairman of the World's Salesmanship Congress, which will be held in Detroit next month. We are exceedingly pleased to be able to introduce Mr. Barrett to you today, and I am sure you will give him very good attention. Mr. Barrett will also tell you something about the great work he is doing in Detroit, and the convention that will be held there next month. (Applause.)

(Mr. Barrett's paper in full will be found on page 161).

The Chairman: I am sure that you all can see why it is that Mr. Barrett is general chairman of a World's Salesmanship Congress. The program covering the sessions to be held in Detroit are in the lobby of the theater, and I hope that all of you will take a copy and look it over. We are very anxious to have as many yellow pine salesmen at those meetings as possible. We understand they are going to have a very interesting program, and they have a special lumber session.

Now, gentlemen, we are just going to call on one more speaker for a short paper. We are fortunate to have with us Mr. S. E. Robinson of Columbus, who is going to read us a short paper on the subject "Advantages of a Technical Training in the Lumber Business." Mr. Robinson spent several years in college studying forestry and lumber manufacturing, and I feel sure that his remarks will be very interesting to you, as to how he put this education to practical use in his experience. (Applause).

(Mr. Robinson's paper in full will be found at page 282).

The Chairman: I am sorry to have to announce to you that Mr. Richard Lieber of Indianapolis has wired us that he is not able to come. If we have time tomorrow morning the address on "Stumpage and Logging Costs," by Mr. P. C. Rickey, auditor of the Long-Bell Lumber Company, Kansas City, will be read. It is only a short one, but we want it to be read by the author, if possible.

We ask that you get firmly fixed in your minds the time of the banquet. The tickets are wrong, and the sign on the stage is wrong. The banquet will start at 7:30. There are 450 tickets sold, and that is all the seats there are in the hall. The newspa-

per men refuse to tell me what is on the program, but they say that in order to send it off right, we have got to all be together and go in the hall at the same time. So I ask that you all be at the Planters' in time to march into the banquet hall at 7:30.

If there is no further business we will stand adjourned for the day.

At this point, at 4:40 o'clock p. m., the school of salesmanship took an adjournment to 9:30 o'clock a. m. on the following day.

TUESDAY, JUNE 27, 1916—FORENOON SESSION.

Pursuant to previous adjournment the school of salesmanship reconvened at the American theater on Tuesday, June 27, 1916.

The meeting was called to order at 9:30 o'clock a. m. by Harry T. Kendall, chairman.

The Chairman: Come to order, gentlemen. In order to make yourselves entirely comfortable, I suggest that you take off your coats. We have a lengthy program this morning, and we want to make you as comfortable as possible. The paper on "Stumpage and Logging Costs" was assigned to Mr. Rickey at a very late date, and unfortunately Mr. Rickey was called away, so that at the last moment Mr. Frank Schopflin of the Central Coal and Coke Company was requested to write the paper; but as he is unable to read it, I am going to ask Mr. Rhodes to read it to you. The paper is one of a series of papers on costs, and deals principally with the figures on these two charts. I hope that you will watch the development of the cost problem on these charts in connection with the papers as they are read.

**Stumpage
and Log-
ging Costs**

(Mr. Rhodes reads the paper on "Stumpage and Logging Costs" by Frank Schopflin, which will be found reproduced in full, beginning at page 158).

The Chairman: We are now on our regular program. It is my desire to introduce to you Mr. Jason F. Richardson, Jr., of Ottawa, Ill. At the Illinois Retail Lumber Dealers' Association meeting the paper that excited the most comment, and I think made the most lasting impression, was the one by Mr. Richardson. It opened up an entirely new avenue of thought to the retail dealers, and I am sure it did to the salesmen who were present at that meeting. We are exceedingly pleased to have Mr. Richardson with us this morning to read his paper, as it is very interesting and instructive. Mr. Richardson! (Applause).

**An Architect
Talks on
Co-Operation**

Mr. Richardson: Mr. Kendall is very particular what I should say, so I am going to read it. I think I can make myself heard.

(Mr. Richardson's paper in full will be found at page 175).

Mr. Ben S. Woodhead: Mr. Chairman!

The Chairman: Mr. Woodhead.

Mr. Woodhead: I believe a committee of the lumber press undertook to feature the entertainment at our banquet last night. They undertook it very graciously, and I believe all those present were very pleasantly entertained. They went to a great deal of trouble, labor and time to perform the stunts they pulled off for our edification and amusement. I believe the very least thing we can do, Mr. Chairman, is to express our appreciation and thanks to them for what they did; and I move you that the thanks and appreciation of this association be expressed to the lumber press committee for the enjoyment afforded us last night.

(The motion having been duly seconded, was put by the chairman to a *viva voce* vote, and unanimously carried).

Mr. Chairman: The next paper on the program will be an address on costs, taking up the cost problem from the log pond and carrying the manufacture of the log into lumber to the sorting chain. This address will be delivered by Mr. J. C. Mansfield, general manager of the Arkansas Lumber Company, Warren, Ark., a man who has had many years of operating experience and knows what he is to say. (Applause).

Mr. Mansfield's paper in full will be found at page 186).

The Chairman: I presume a great many of you are not aware of the fact that a great many yellow pine shingles are made, and in some sections of the country yellow pine shingles are the standard of quality. The Southern Pine Association has been making some investigations as to the merits and possibilities of yellow pine shingles, and Mr. J. H. Eddy, chairman of the shingle committee of the Association, will address you on this subject. Mr. Eddy. (Applause).

Mr. Eddy: I have prepared quite a lengthy statement. The paper will appear in full in the printed report of this meeting. I don't know that it is necessary for us to go very much into detail in investigating the wooden shingle. I think all of us have memories of the messages of the shingle in our youth. It is pos-

A Vote
of Thanks
for Trade
Paper
Editors

Costs
From Pond
to Sorting
Chain

The Yel-
low Pine
Shingle

sible that those memories in the experience of the younger generation have prejudiced them against the wood shingle. However that may be, we believe the yellow pine product to be a very important part of our industry, and we have neglected it, very much to our own disadvantage.

There are millions of shingles made every year, a great many of them made by mills poorly equipped and without much regard to the requirements of roofing material. Your committee has been studying this subject for some three or four months. We have put out specifications dealing with the manufacture and production of the material.

As you know, there is a tremendous demand in this country for roofing material. The shingle is, of course, best adapted to the needs of a roofing material in connection with houses, or with homes, to use a better term. The requirements of roofing material are that it shall be tight and durable; that it should be of light wood, requiring no extra strength in the frame of the building on which it is applied; that it may be readily available, and at a reasonable price; that it should be a non-conductor of heat and cold. Those of you who have studied the shingle know that it meets all of those requirements to a remarkable extent. It is the misuse of the product that has brought it into disrepute. The mistake has been made of using unfit material for shingles. The result has been disastrous to a very considerable extent. And what we have to do now is to correct our practices and get ourselves right at first, and then to educate the public to the good qualities of the shingle, and especially of the yellow pine shingle.

**The Wood
Shingle
Best**

There is a tremendous demand to be taken care of within a short distance of the points at which shingles are manufactured in the yellow pine states, where the rates of freight are low and where we have no competition with shingles by a substitute material.

**A Tremendous Market
Near Home**

We have been experimenting with our shingle, properly treated by a mineral paint, as compared with results in tests with the composition shingle—substitute shingles; and the results justify us in the belief that if we use a little care and attention we can produce an article so far superior to the composition roofing of various firms that when the public knows what we can do there will be no trouble about our getting the business.

As to the history of the shingle, it might be interesting to you to know that it has been used for centuries; that there still are in England, and perhaps other places, good shingles on many of the old towers—shingles that were put there in pre-Norman times. There is no question about the durability of the product, properly made, properly applied and properly protected. I do want to ask of the salesmen to post themselves thoroughly concerning the merits of this product, and to be prepared to meet the criticisms that you will hear and that are largely suggested by our friends, the substitute manufacturers. Prepare yourself to meet those criticisms and to give the builder and the consumer the facts. Urge the builder especially to post himself as to the right kind of shingle to have; the specifications under which it has been made, and manner in which it shall be applied. There is just coming before the grading committee the question of specifying the grade of roofing strip. Sap lumber has been used for that purpose, but it does not possess the requisite strength. The tendency has been to apply those strips carelessly, and the result has been very bad. We have to include in our grading rules specifications that will do away with that. Shingles have been laid too much to the weather. They have been laid on roofs that are too flat. There are limitations in the use of the shingle which we must recognize and avoid. These are mistakes which have in the past cost us so much, and which are likely to cost us so much more if we don't take the trouble to correct the errors. We hope that the salesmen, whether or not their mills manufacture shingles, will interest themselves in this feature of their business, and post themselves concerning the facts, and will go out prepared to defend yellow pine shingles especially against the attacks of the substitute manufacturers. Our product does not carry that great percentage of profit which makes possible an unending advertising campaign, such as the substitute people are able to carry on. Their product is rags and paper covered with tar, and consequently they are able to spend a great deal of money in advertising; and those statements that they are making, appearing day after day in the newspapers and in their printed matter, are bound to influence the minds of builder and consumer. The only way we can meet that is to post ourselves and become prophets of the yellow pine shingle. That is what we want to ask of you. (Applause).

(Mr. Eddy's written address will be found on page 189).

**Prepare
to Meet
Criticisms**

**Limitations
in the
Use of
Shingles**

The Chairman: Is Mr. Sterling in the house? Is Mr. Watkins here?

Mr. Rhodes has a little surprise for you. He is going to give you a little advance information. Mr. Rhodes has prepared from telegraphic reports the weekly barometer.

(Mr. Rhodes places upon the stage the barometer in the form of a large chart).

(Tremendous applause).

Mr. Rhodes: Right off the press, and absolutely accurate.

A Voice: Suppose we continue this convention indefinitely, if it produces that result. (Applause).

Mr. Rhodes: You may not all be able to read it. I will make a little analysis of it for those who can't see it. Orders received during the week, 4,298 cars, aggregating 85,715,014 feet, received by 159 mills reporting business up to Friday night. Those same mills shipped 4,094 cars, or 4,000,000 feet less than orders received. The average orders for the 159 mills were 539,000 feet per mill.

**Good News
in an
Advance Mill
Report**

The same mills produced an average of 490,000 feet during the week (applause), while the normal production of those mills, based upon reports which we have received weekly from them during the last year, was 608,000 feet per week. Thus the shipments exceed the production by $2\frac{1}{2}$ per cent. The orders exceeded the production nearly 10 per cent. (Applause). Your attention is called to the fact that the barometer is now based upon normal production, rather than on what we have heretofore based it, the average production. Thus the orders are shown in relation to the normal production, and the actual production is shown in relation to the normal production. The actual production was below normal nearly 20 per cent. The shipments were below normal production 17.22 per cent, while the orders were below normal production 11.37 per cent. It is gratifying to note that the average orders per mill for the month of June amounted to 446,000 feet, covering 147 mills, for the first week of June; 548,000 feet, or 100,000 feet more, average per mill, for the second week of June—157 mills; 496,000 feet per mill from the 151 mills for the third week, which was last week; while this week, closing Friday night, the average orders were 539,000 feet per mill for 159 mills, while the production was 498,000 feet. For your information

I will say that the Association is mailing 2,500 copies of this barometer each week. (Applause).

The Chairman: As neither Mr. Sterling nor Mr. Watkins appear to be in the room, I am going to ask Mr. Sackett, the Forester for the National Lumber Manufacturers' Association, to read his paper on "Wood Substitutes." Mr. Sackett was not expecting to be called upon, but we are anxious to have his paper presented to you. He will be on the platform in just a moment.

A Voice: Mr. Chairman, Mr. Watkins is in the room.

The Chairman: Mr. Watkins here? Mr. Sackett left the rear of the hall to come to the stage a moment ago. Just a minute, until I see whether Mr. Sackett is on the stage. I guess Mr. Sackett has been lost in the shuffle somewhere. Mr. Watkins being in the room, I am going to ask him to address you on the subject "Judging Orders." (Applause).

Mr. Watkins: Mr. Chairman and Gentlemen: I notice a mistake in this program. It is "Judging Orders." I think that is a little mistake. I meant to make it "Judge the Order." I haven't seen two orders at once for quite awhile. (Laughter). I want to say I feel so good over this report and Mr. Rhodes' little speech I don't know whether I can talk about my paper or not. That is the best speech we have heard yet.

(Mr. Watkins's paper will be found on page 203.)

The Chairman: Without doubt the next speaker that I am going to call on, or rather, that it is my privilege to call on, is the most shining example of success in lumber salesmanship. Of course, the heights to which he has climbed were not reached from selling ability alone, but his success, was, I am sure, due to his making himself a superior salesman. I am very glad to present to you Mr. Edward Hines of Chicago, who will address you on "Salesmanship From the Standpoint of a Lumberman." (Applause).

(Mr. Hines's paper in full will be found beginning page 356).

The Chairman: I know that we all consider ourselves deeply in Mr. Hines's debt. I know that we can't fail to appreciate how much sacrifice this occasion means to Mr. Hines, who is a man of very large business interests, as he has given a great deal of his time to this. We will stand adjourned until 2 o'clock.

At this point, at 12:30 o'clock p. m., the school took a recess until 2 o'clock p. m. of the same day.

"Judging
Orders"

Mr. Hines
Talks on
Salesmanship

TUESDAY, JUNE 27, 1916—AFTERNOON SESSION.

At 2 o'clock p. m. the meeting was called to order by Harry T. Kendall, chairman.

The Chairman: Come to order, gentlemen. I want to explain to you some of the changes in the program and say that we will probably vary the program very considerably from now on in order to get in some discussion on the part of the men on the floor. The papers that have been read here will be printed in the printed proceedings, a copy of which will be mailed to you. Here are some question that the committee thought we might put out to you for general discussion, and if these questions interest anyone in the audience we would be glad to have you get on your feet:

On an order sent in by a salesman, is it better to write the customer or the salesman, in case the sales office wishes to make any correction before entering the order?

How soon should an order for ordinary yard stock be shipped, to come within the meaning of "prompt shipment?"

If a customer sends you an order showing the usual specifications, and in addition says, "This must be good stock" would you give him your regular grade, or would you expect the sawmill to ship better grade than that specified?

How should an order be loaded that calls for 10 to 20-foot lengths? In other words, what percentage of surplus stock can be loaded?

Now, gentlemen, those are some of the questions you might like to say something on. If there is any other, we would be glad to have you put it to us. We want to give you an opportunity, gentlemen.

A Voice: Mr. Chairman, I should think it would be better to put each question separately.

The Chairman: All right. What question shall we discuss?

A Voice: Well, take the first question read.

The Chairman: "On an order sent in by a salesman, is it better to write the customer or the salesman in case the sales office wishes to make any correction before entering, or avoid misunderstandings in the order sent in by the salesman?"

Some
Questions
Salesmen
Ask

Discussion
of the
Questions
Asked

Mr. Nelson: Mr. Chairman, I think it would be better to leave it to each company to decide that.

The Chairman: You think that is a company matter?

Mr. Nelson: I think that is entirely with the company.

The Chairman: Are there any other views on that? Do you all agree with Mr. Nelson that that is a strictly company matter?

A Voice: Mr. Chairman!

The Chairman: What do you think about it, Mr. Blake?

Mr. Blake: I think the customer should be written and a carbon copy sent to the salesman.

The Chairman: You think the customer should be written direct?

Mr. Blake: Yes, sir; and a carbon copy of it sent to the salesman.

The Chairman: Someone else?

Mr. Lennox: Well, I should think the customer should be written direct.

The Chairman: Any other comments on that question?

Mr. Kennard: Mr. Chairman, I don't think that should be taken up by them with the company, but with the salesman. I have lots of customers I would not want a contract varied with, at all.

Meaning of
"Good
Stock"

The Chairman: Any other views on that subject? Well, then, let's discuss this question: "If a customer sends you an order showing usual specifications, and in addition says, 'This must be good stock,' would you give him regular stock or a grade better than specified?"

Mr. Beebe: If it is a habit of shipping poor stock, I would give him something better; but if we have been shipping the regular grade, I would give it to him. (Applause).

The Chairman: Now, we are getting business and orders on which the salesman writes, "Must be good stock." What is a sales manager to do with that kind of order?

Mr. Nelson: I do not think so. The fact that it says it must be a good grade does not mean that it should be a different grade than that specified on the order.

All of the subscribers to the Association guarantee that their grades are all good. And I do not think that any salesman means by writing on the face of an order, "Must be good stock," that

it is a special contract, because the order specifies specifically the grade orders, and unless there is some explanation as to what limitations or exemptions should be made the notation is superfluous. It is used by some buyers as a lever for a claim.

While some buyers think some mills make their lumber above grade, they are honest in their belief and are sometimes willing to pay a little more money because they believe they are going to get something above grade. And the fact that he is putting this information on the order indicates that the salesman is encouraging him to believe he is getting something above grade. It would be much better if the salesman would explain to the customer that the stock which they ship under that grade is all graded the same—that if it is better than that offered by others it is due to the natural growth of their timber—that they are not picking their grades for anybody—and if the customer does not think the stock he will get is worth the money not to buy it from him. (Applause).

The Chairman: I am speaking now of orders in general.

Mr. Nelson: I don't think the order ought to go into the house that way. I think the salesman ought to sell the grades that they make; sell it in accordance with the grades of the Association; and they shouldn't add anything special to that class of order.

Mr. Dix: If the order carries an additional price, I think we ought to give a little better grade, possibly; but if it carries the regular price, I don't think so.

Mr. Rogers: I think if the shipper or mill has reason to believe that the customer expects something better than the Association grade he ought to take it up with the customer.

Mr. Kendall: Doesn't that make a special contract, and vitiate all the rest of the terms of sale?

The Chairman: Mr. Nelson, will you answer that question?

Mr. Nelson: I don't think so. The fact that it says it must be a good grade doesn't mean that it should be a different grade than that specified on the order. All the associations hold the subscribers to the association guarantee that their grades are all good, and I think it is the duty of a salesman that has to write that on the face of his order to explain that matter to his customers. I don't think the fact that he is putting that on there means that he believes that the stock you ship is not worth the money

The Notation "Good Grade" Unnecessary

to be paid for it; and the fact that you have written on the face of the order that it must be a good grade is not necessary at all; but the fact that it is put there is evidence that the customer is expecting to get good stock. If you don't think the stock I am selling is worth that money, don't buy it from me. (Applause).

Mr. Tully: The putting of it on there may be due to the fact of the desire of the salesman to lead his customer to believe that he is going to get something good. Then, again, it may be charged that past shipments from that particular mill have been proving unsatisfactory, and they want good grade. And an order of that kind only insinuates to the Southern Pine Association the necessity of making uniform grades. If the mill ships only uniform grades you will see that that kind of notations won't appear on the orders any more. (Applause).

**Inevitable
Variations
in Low
Grade
Stock**

Mr. Nelson: The salesman and customer must understand that no two yellow pine trees grow the same, or have the same defects, and that the lower the grade the greater the variation. No salesman can afford to guarantee that one shipment of a low grade of lumber will look just the same and contain the same defects as any other carload of the same grade they may have shipped in the past. A great many of our troubles are due to this misunderstanding, however.

We will take for example: Some No. 1 boards are accumulated in running finish. These accumulations are usually placed under the shed. The principal defects are machine defects, which are often unnoticed by the average buyer or consumer, and a shipment of this kind looks entirely different from No. 1 boards which may be shipped from regular stock which is piled out on the yard. To a more or less extent these same degrees of difference apply all the way down the line.

No arbitrary selling rules can be laid down, but something must be left to the judgment of the inspector. It is not possible that every inspector can grade the same way; and even grading is not a matter of judgment altogether, but a matter of the heart; and as they say, it is the eye of the master that fashions the piece. If these gentlemen will go over their yard and check up their grading they will find that their variations of grade will be greatly minimized, or the grades made very much more uniform, or as uniform as human judgment can make them. (Applause).

Mr. Stevens: I think the traveling salesman who writes on the front of his order, "Must be good stuff," is either playing a favorite of one among his many customers, or is trying to leave that customer under the impression that he is going to get something a little out of the ordinary. I don't think that any salesman, at least in my territory, puts "must be good lumber," because we all ship it good; some of them ship it a little better than the other fellow, and we all scratch our heads when we see it. I think Mr. Nelson is absolutely right, and that no two cars of No. 2 shiplap can be shipped out alike. It is owing to the timber out of which you get that stuff as to what the variety may be; it may be a little higher or lower. You have to do the best you can. But as a rule we have mighty little trouble on grades.

**Do Salesmen
"Play
Favorites"?**

The Chairman: Any other comments on this question?

Mr. Nelson: Regardless of how many grading rules we ever establish, in my opinion lumber will always be bought and sold largely on comparison. But we want to get the dealer away from the belief that one manufacturer is shipping his lumber above grade, and that he is accustomed to buying a grade of lumber and getting a better grade—I mean to say, better than the Association grading rules specify. There are any number of dealers who are of that opinion—that the grades that are shipped them are better than the Association grading rules permit; and we should get those dealers into the correct way of thinking; that the reason one shipment of lumber looks better than another is that the trees out of which that grew didn't have as many defects in them as the other.

**An Erroneous
Idea Some
Dealers
Have**

Mr. Beebe: We are here in the interest of co-operation. It seems to me that no salesman should write on an order that this must be particularly good stock, because, as somebody else pointed out over there, if you do, it is a special contract. I think that in the interest of co-operation we should not put anything further on an order except to say: "This must be strictly up to Association grade in every case." (Applause).

Mr. Wilhite: I wish to say that when you get an order that says, "Must be good stock" on it, there is a reason for that man putting it on there, because the ordinary salesman doesn't put anything on the order unless he wants to mean something. Now, a good many times a salesman puts that on there because he has had trouble on a previous order or two, and the dealer will prob-

ably say: "Now, if this car don't come up to grade you can go somewhere else to sell your lumber." Now, my idea is, when you get that on an order, why not hold the order and ask the salesman what he means by that? (Applause).

Mr. Snell: I believe that nearly all of the manufacturers who are members of the Yellow Pine Association put on their letter-heads and invoices: "We sell our lumber subject to the rules of the inspection bureau." Now, we say we do, and we ought to do that; we ought to ship our lumber that way; and if an order sent in specifies something different, we have got two contracts in one, one printed on the invoice and the other on the order. Therefore I think that a special contract should not be made. I don't see the advantage to the salesman, and certainly it is a disadvantage to the general trade. We ought to try to make our grades comply with the rules of grading, and we ought to sell our lumber that way, and we may, perhaps, have some trouble, but we will get by.

Association
Rules
Should Be
the Standard

The Chairman: In answer to what Mr. Wilhite says, I think this: That if a salesman has trouble with a customer, or is in danger of losing a customer on account of inferior shipments in the past, that he should have more interest in that proposition and in the customer than to simply write the words on his order—"must be good stock;" I think the salesman should keep that off of his order entirely and write a special letter on the subject to the house, and let them know all about the trouble that has happened in the past, rather than to put anything like that on the order at all. (Applause).

Mr. Austin: In reference to the Southern Pine Association, there is a point that comes up, and that is the case where a customer expects something better than the rules outlined by the Association provide. We should write him and say that all of our lumber is graded in accordance with the rules and regulations of the Southern Pine Association, and all settlements must be made on that basis, unless a special contract is made to the contrary.

The Chairman: Any other comment on this question?

Mr. Price: If he wants something specially good, sell him a grade higher and get the money.

Mr. Irwin: Supposing, for instance, a mill authorizes you to talk quality as a reason for their price being \$1 or \$2 higher on an item, say, on low grade flooring, and you tell that man you are

giving him quality. You are charging \$2 or \$3 more. When he comes to make an adjustment, that is adjusted on the Southern Pine rules. If the sales manager told you to advertise their stuff as being particularly good, then it is the sales manager's fault, or the office's fault, in leading a salesman to enter into the special contract, whether willingly or unwillingly.

**When a
Salesman's
Instructions
May Cause
Trouble**

The Chairman: That is the same proposition we had a moment ago; that is, the practice of making a contract better than the Southern Yellow Pine rules, and advertising it as such. That is a proposition we can't intelligently handle, I don't think, in this meeting. Gentlemen, anything further on this subject?

"How soon should an order for ordinary yard stock be shipped to come within the meaning of the words, 'prompt shipment,' when written on the order?"

What does "prompt shipment" mean? Does it mean ten days, fifteen days, twenty days, or what does it mean, as an abstract term, without any explanation to it at all?

**The Meaning
of "Prompt
Shipment"**

Mr. Rogers: I say that when an order specifies prompt shipment it ought to go forward within ten days. If it is wanted sooner than that by the customer, if it is wanted at once, or immediately, the order should so state.

The Chairman: Mr. Rogers says prompt shipment means ten days. Is that the consensus of opinion here?

Mr. Corrington: It seems to me if a customer expects prompt shipment at the time he orders the car he has some idea of the time the customer expects shipment, and he can give that information to his mill.

Mr. Nelson: A few years ago we had an organization known as the Lumber Trades Congress, and we did work on it for two or three years, in connection with all branches of industry; and it was agreed that "immediate shipment" would mean inside of ten days, and "prompt shipment" inside of thirty days. That was generally agreed upon by the committee, but I don't know that it has any weight.

**"Prompt,"
"Immediate"
and "Rush"
Shipments**

Mr. Blake: If we co-operate with one another, and if we all understand it and give our customer to understand what we expect to do, how soon we expect to ship, then we would co-operate; and we have always considered that "prompt shipment" meant thirty days; "rush shipment," within ten days.

Mr. Davis: I can answer only for my territory. I had a little controversy and the company advised: "On every entry we have 'prompt shipment,'" and asked: "Are you doing this on all your orders?" He said, "Yes, on every one of them." "How soon do they expect it?" "In thirty to sixty days. If I wanted it any sooner than that I would put on 'immediate' or a special time."

Mr. Brown: It all depends on what kind of order it is; how much it is; what it calls for.

The Chairman: It is an order for ordinary yard stock, assuming one car.

Mr. Brown: One car?

The Chairman: That is the assumption; one car.

Mr. Nelson: I think if the time of shipment is of any importance the time should be specified on the order.

Mr. Wilhite: Mr. Nelson is right. There is no use tying the mill up with unnecessary conditions. The less conditions you have on the order, the better off you are.

Mr. Dumm: We have worked out an average of seventeen days on ordinary shipments.

The Chairman: Have any of you got any other proposition you want to discuss?

Mr. Austin: I would like to have some information on the approximate cost of bundling short stock. There is a great deal of business now being offered, for instance, for 1 by 4, say six and eight feet. I would like to have an explanation of the cost of bundling that stuff.

The Chairman: The paper that will be read tomorrow takes everything from five up to long lengths, and gives you the exact cost of bundling. Gentlemen, is there anything else? We have some more questions to propose. Something else might appeal to you.

"How should an order be loaded that is sent in by the salesman calling for 10 to 20-foot lengths? In other words, what percentage of surplus can be loaded, or what percentage of surplus stock can you safely load?" (Laughter).

Mr. Montgomery: If a customer gives an order for 10 to 20-foot lengths and he has a surplus of one or two lengths, the salesman should advise his customer of the fact, advising the approximate assortment he will receive; and if that doesn't

suit his customer, name another one. In other words, let the customer express his preference for what he will get.

Mr. Rogers: I believe that the question of assortment of lengths depends on the buyer pretty largely. Some large buyers will take any assortment, when an order calls for 10 to 20-foot; are satisfied with any assortment of lengths from 10 to 20 feet; but the ordinary small dealer, when he orders 10 to 20-foot lengths expects a reasonable assortment of lengths; but we don't, however, consider that the buyer, whether a small or large buyer, has a right to criticise the mill, if that particular mill ships a surplus of any one length which suits their stock. We personally think that when a dealer wants an assortment of lengths he should specify the lengths.

A Voice: Does the term 10 to 20-foot lengths imply that each length should be shipped,—10, 12, 14, 16, 18 and 20?

The Chairman: Personally, I think so. What do you think of that? Does the specifications, 10 to 20-foot, mean that some of every length be shipped?

**What the
Term "10 to
20-Foot
Lengths"
Implies**

Mr. Burgoyne: We have just recently handled a large shipment of 10 to 20-foot lengths, and in one case we were requested by the customer to ship him all—12, 14 and 16—and we agreed to do that, notwithstanding that we had a lot of 10, 18 and 20 that we were very anxious to unload. Consequently we gave him a fair average of 12, 14 and 16, namely, 60 per cent.

Mr. Woodhead: I think that is the proper way to handle an order like that. An order calling for 10 to 20-foot in length might vary according to the destination. Some parts of the country would prefer 18 and 20-foot lengths; and some would prefer 12, 14 and 16.

Mr. Nelson: The shipping clerk at the mill does not know your customer, and may not be as familiar with his needs as you. Why not put on the order, when you send it in, what you expect? If you leave it to the shipping clerk at the mill, the chances are the shipping clerk is going to ship what he has most of, and there is no use of leaving that open. If you are going to put something over on your customer, put it over when you are making the deal, and not afterward.

**Shipping
Clerk or
Salesman
to Judge?**

Mr. Austin: I don't agree with Mr. Nelson, because I believe that if it is left to the salesman it will mean, to a cer-

tain extent, that it is left to the judgment of the customer. In that event we all know that the largest percentage of lengths ordered would be very heavily 14 and 16 feet.

Mr. Nelson: Educate or change your salesman.

Mr. Austin: We can't always do it. I do believe the best way to handle those shipments is to give the instructions to each mill of approximately the amount of each length to be shipped; and if you find you want to change that, on account of some specific location where they can use a little more of one length, issue special instructions on the order when you send it to the mill. (Applause).

Mr. Wiener: I want to agree with Mr. Nelson. I think the salesman should specify on his order an assortment of lengths, so if the length is in question on an order of one or more lengths the mill's troubles are over. We can never tell when an order comes to a mill what is in the customer's mind. An order of 10 to 20-foot lengths might go to a place where all of one length might be shipped; or, the customer might want a fair assortment of lengths. The salesman, when he takes the order, is on the ground, and has some opportunity of knowing what is actually wanted; so, if he knows the customer could use any one length, his order ought to read that way, so that any shipping clerk would know what is wanted, and avoid any future controversy. (Applause).

**The Sales-
man Knows
Conditions
Best**

The Chairman: Is there any further discussion, gentlemen, of this problem. I have another one here:

"Why should any sales be made for 6-inch No. 2 fencing, ceiling or center matched eliminating the Association percentage of 4 and 6-foot lengths?"

Mr. Burgoyne: No salesman or sales manager ought to permit the sale of No. 2, other than strictly in accordance with the rules of the Southern Pine Association, unless there be some specific contract covering such sale. We have had more trouble trying to dispose of our 4 and 6-foot lengths in common lumber than all the balance of the lumber we manufacture. Notwithstanding the fact that our percentage of those short lengths is small, at the same time orders invariably come in for No. 2 common 6-inch, 8-foot and up, and occasionally 10-foot and up; and I think that with the good work that the Southern Pine Association is doing, together with a gathering of this character, and the

good work that the sales managers are doing, and the salesmen, in salesmanship, that we all ought to get together and work off these short lengths in every sale that is made; that is to say, not exceeding the percentage allowed by the rules of the Association. Now, in these cases we don't always have the full percentage of short lengths, but we do like to work those short lengths off whenever it is possible to do so; and we have resolved not to take any more orders that way; that is to say, unless they comply with the Association rules. (Applause).

The Chairman: Gentlemen, we are now an hour late starting our program. First on the program is an address on "How Best to Cover the Territory," by Mr. James H. Heyl of the Eastman-Gardiner Company, Columbus, Ohio. I beg to introduce Mr. Heyl. (Applause).

Mr. Heyl: Mr. Chairman and Gentlemen: In this paper I have confined myself to the most essential points. I have not tried to tell you all I think I know on this subject, because I think you would get mighty tired before I got through.

**Mr. Heyl
on "How
Best to
Cover the
Territory"**

(Mr. Heyl's paper will be found on page 212).

The Chairman: One of the principal ways or directions in which the funds of the Association have been spent is in the direction of exploiting silos. Mr. J. Lewis Thompson, chairman of the silo committee of the Southern Pine Association, is here, and will address us on this subject. (Applause).

Mr. Thompson: Mr. Chairman: I will say that this is the first time that I have appeared on a theater stage. One time up in New York—Mr. Rodney Browne is here, and he will bear me out in this—I was standing there and was asked to address them, but they cut me off in the middle of my talk, up there at the Retail Lumber Dealers' Association, and let a lawyer come in and take up where I had left off, and finally brought me back; and I told them that was the first time I had ever been called on for an encore. I am not going to take up much time, because it won't take me long to tell you what I know about silos. But I want to tell you this: That up in New York I was introduced as a "yellow pine lumber man, and thirty days late, as usual." I didn't quite get the gist of the remark, because they had given us written instructions. I got in there on time, all right, but it seems that they put me on the program the day before I was to appear there; and I told them, after I was introduced that way.

**Mr. Thompson
Talks
on Silos**

Mr. Thompson "Sasses Back"

I told them, I says: "Gentlemen, I have been sitting around here and listening to what a fine looking bunch of men you are, and how well you look, all today. Every speaker says how fine you look." And I said: "You are not the finest looking bunch of men that I ever looked at. Down where I come from there are a whole lot better looking fellows than you are; and I will say this, too: Down there we couldn't get 300 men together if there wasn't some grafting among them, and I don't think there is any exception in this bunch."

Salesmen Can Set the Public Right

But I am going at this for, I believe, the first time I have had an opportunity to look into the faces of a bunch of men that represent the yellow pine industry—represent it before the public. Now, we fellows at the mill make the lumber, and you people go out and represent us before the public. This is the first time I have ever had the opportunity of looking into the faces of this many of the representatives, and I am happy at the opportunity to do it, because I think that you men can put us right, if you will only have the patience to do it—and you know we haven't been always right before the public. We have been lambasted a good deal, and some of you fellows have been ashamed to tell that you were in the lumber business when you got out. I make these few remarks because I don't want you to be ashamed to say that you know something about silos; because my subject is the reason for the sale of wooden silos—ten reasons for the sales of wooden silos, as compared with those built of other materials.

(Mr. Thompson's paper will be found at page 389).

The Chairman: The next number on the program is an address on "Selling Factory and Industrial Trade," by Mr. C. W. Myers, of the W. R. Pickering Lumber Company, Detroit, Michigan. Mr. Myers is one of the very best known specialty salesmen in the industry. (Applause).

Mr. Myers: Mr. Chairman, I wish to give away my time to the discussion of the question asked by Mr. Austin and Mr. Beebe.

The Chairman: Mr. Myers's address will appear in the printed record.

(Mr. Myers's address will be found on page 310).

The Chairman: Mr. Austin.

Mr. Austin: One of our questions was, "What Is the Best Disposition to Make of Short Lumber?"

The Chairman: Has anybody got any light on the subject—Ways and means of disposing of short lumber? Has anybody got an idea—one idea?

Mr. Martin: I think the proper way of disposing of short lumber is, wherever you sell long lumber, to educate the other fellow to use the short lumber. I don't believe it would be very much of an effort for the yellow pine manufacturers to dispose of a part of their short lumber right along with their long lumber. The coast mills and cedar mills, on cedar and cypress siding, they bunch 20 per cent of 4 to 9-foot lengths with their long lengths. There will sometimes be three lengths. They will just put them right in; and the coast mills all absolutely specify that 15 per cent of short lumber must be loaded with any lumber, or it affects the price from 50 cents to \$2.00 a thousand. The organization out there is not very much tighter than the Southern Pine Association. That is, their general sales methods. But that is one feature that they strictly adhere to. If a man orders all 14 and 16-foot flooring, they charge \$2.00 per thousand extra, and there is not one concern out of fifty that will waive that extra charge; and they don't allow specifications of the lengths, either; it has to be 6 to 10-foot.

**Disposing
of Short
Lengths**

The Chairman: Mr. Vanlandingham, where shall we sell short lumber?

Mr. Vanlandingham: What the gentleman said about the coast business—few adhere to those rules. We have rules, but we don't adhere to them any more than the other pine mills. We can buy a straight car of 14 and 16-foot flooring just as easily as 10 to 20. In fact, we generally have to do it that way, because that is the way the trade wants it. If someone can tell us how to get rid of 6-inch, 10-foot flooring, we would like to know it. Our customers say they would like to know how to sell it.

Mr. Irwin: I don't think the manufacturer realizes the disadvantages the retailer has in reference to short lengths. In Illinois we have a trade union that governs it. For instance, 32-inch lath, the union charges 30 per cent more to lay it than 4-foot. They charge a given price to lay 4-foot lath. To lay 30-inch lath they charge more. That is particularly true in Southern Illinois. Now, the best way we know to handle short lengths would be to make the price enough lower on those lengths to equalize that extra cost of labor. You can't expect a man to use 6 and 8-foot when

he knows it is going to cost him twice as much for carpenters as if he used 14 and 16.

Mr. Woodhead: I gave my particular attention on one occasion to siding, and induced a great many short lengths being used for construction of houses—1, 2, 4 and 6 feet long. I wrote to architects, asking them if they couldn't arrange to handle that. I suggested to them that they go to a little trouble, go over their plans and find out how much of each length could be used in short length, and we furnished it to them in those lengths, without reducing the price, because the contractor saved money in not cutting the lengths. I have assumed that something could be done along that line, but we didn't have a convenient or economical way of storing it and handling it; and I suggested that we make a place to handle it, and they tried it with two of the yards, and are making quite a success by that method. It imposes some considerable trouble on the yard manager or owner of the yard, but nothing is ever done without trouble, and profit is the result of work; and I pointed that out to them; and two of the yards made quite a success of it, and the only objection made was as to the lack of facilities for handling short lengths economically, which was overcome, to a measureable extent, by boarding one end of the shed and piling the stuff up properly.

Mr. Lovitt: When I go in to a yard man he gives me a list of stuff that has no 10-foot in it. I say, "Here, I want to put some 10-foot in this." "Well, I can't take it, because my man has not called for it." He says, "I have to buy what they want."

Mr. Nelson: The salesman can educate the carpenter and the architect to use that stuff, if they will do it. Educate them that trees don't grow all 16-foot, and that they can get 10-foot for less money, or shorter lengths for a little less money. There is no question but what the short drop-siding and short ceiling can be used just as well as the long lengths, but the average carpenter orders 16-foot because that is about the only length that he recognizes.

Mr. Austin: The reason I advocated talking about 10-foot pieces, we give a man a fair assortment of 10 to 20-foot. We know it will be satisfactory. And we instruct them not to exceed 5 per cent of 6 and 8-foot. That 5 per cent cleans up our surplus of flooring. One very good method of disposing of shorts, and something I think the mill man overlooks, is by dis-

**Persuading
Dealers to
Handle Short
Lengths**

**Educating
Architects
and Con-
tractors**

posing of it to the man who wants something made special; special lengths. There are manufacturers of furniture and other lines that use stock down to 18 inches; from that on up. I know of an order that was taken calling for 55½ inches, and we can furnish that with very little additional expense; and on this particular order we got \$5.00 per thousand more than for 10 to 20-foot lengths. I believe that if manufacturers would look into that and go to a little expense to put in a machine in every mill that they would clean up their shorts to good advantage. (Applause).

Mr. Woodhead: On an order calling for 10 to 20-foot, and you load 5 per cent shorter lengths, what do you do when the customer refuses to pay for that, on account he didn't order it? I have had a case like that happen to me, and I just want to know how you would handle it?

**When the
Customer
Won't Pay
for Short
Lengths**

Mr. Austin: Issue instructions to the superintendent of the mill and department heads specifying the percentage of each length to be loaded. The percentage is so small on the carload—5 per cent; as you see, would be considerably less than a thousand feet of 2-inch, 6 and 8-foot; and where we have had slight complaints, we have always settled them by allowing not to exceed \$2.00 per thousand; and that, I believe, you will admit, is considerably better than getting a big accumulation of short lengths at the mill.

The Chairman: I desire to introduce to you Mr. Robert S. Lindstrom of the Illinois Chapter of the American Institute of Architects, of Chicago, Illinois. He is now writing a series of papers on mill construction for the American Lumberman. We desire him to give you a brief review of the possibilities in the use of yellow pine timber for Mill Construction. (Applause.)

(Mr. Lindstrom's paper will be found on page 269).

The Chairman: Is Mr. Dionne in the audience?

Mr. Beebe: I think the question I was permitted to ask was partly answered. I was going to ask the question of Mr. Myers here, regarding the possibility of loading 4 and 6 and 8-foot lengths on an order calling for 10 to 20, and billing it at the price of 10 to 20-foot stock; and how much the customer would take, from the salesman's viewpoint.

The Chairman: Any further discussion on that subject—on an order calling for regular lengths?

Gentlemen, we have two numbers yet on the program that I am very anxious to present to you. The first is the arrangement for territorial organization, and the other is the efficiency examination. We are endeavoring now to locate Mr. Dionne, who has agreed to read this paper. It will take about thirty minutes, and we want the salesmen to select one of their number to come on the stage and be examined. We will also ask each one of you to take pencil and paper and sit down and make an analysis of yourself, in what essentials of efficiency, in accordance with the authoritative definition, you are deficient. Now, Mr. Dionne is not here; and I will be exceedingly obliged if you will break up the meeting and hold territorial meetings in the back of the hall. I can guarantee that if you will remain in the hall for thirty or thirty-five minutes we can give you some valuable hints along the line of efficiency. Regarding the territorial organization, I will say that I will read briefly the idea; and I will ask one salesman from each state or territory to come to the foot of the stairs and get a banner; then go to the rear end of the hall and call all the salesmen of that state or territory to him. The plan itself I will read briefly.

The plan that we propose, or rather, the plan that was tentatively laid before the committee this noon was as follows:

That the salesmen should investigate in their territorial organization:

New uses for yellow pine;

The failure of yellow pine to meet market conditions;

Competition:

- (a) From concrete and steel;
- (b) From other wood substitutes;
- (c) From other woods.

The salesmen should endeavor to co-operate with all distributing channels by studying out a plan of educational campaign:

- (a) Through the architect;
- (b) Through the contractor;
- (c) Through the retailer;
- (d) Through any industry with which they come in contact, concerning the problems and necessities both of the manufacturer and the consumer.

The
Salesmen's
Territorial
Organization
Outlined

Work for
the Territorial
Organization

A Voice: Mr. Chairman:

The Chairman: Mr. Montgomery.

Mr. Montgomery: I have been informed that Mr. Seidel furnished the body when it was called to order yesterday with a gavel, and with a key; and most of us also received carnations and badges; and I think it is no more than proper that we should extend to the Seidel Lumber Company a vote of thanks.

**A Vote of
Thanks for
the Seidel
Lumber
Company**

(The motion, having been duly seconded, was put by the chairman to a *viva voce* vote and unanimously carried.)

Mr. Austin: To avoid misunderstanding, wouldn't it be better to have it understood that when division of territory is made, that a salesman will classify himself in the town in which he lives?

The Chairman: In which he has his headquarters.

(At this point a number of salesmen march upon the stage, each carrying a banner bearing the name of one of the established territories.)

The Chairman: Northern Illinois! Everybody from Northern Illinois follow that gentleman to the back of the hall.

(The salesman carrying the banner of Northern Illinois proceeds to the back of the hall; and all the other banners are successively carried to the back of the hall, as the chairman calls out the name of each territory, respectively, and thereupon a temporary recess was taken.)

The Chairman: Come to order rapidly, gentlemen. As I call the territory, I will ask that the chairman elected rise and give his name; and also the name of the alternate.

(In this manner the following names were recorded:)

Territory.	Chairman.	Alternate.
Texas	H. A. Strube	F. J. Lennox
Oklahoma	B. H. Miller	J. F. Schnieders
Kansas	Otis Smith	J. S. Prestridge
Indiana	Ed Troy	Alexander Hamilton
Ohio	J. R. Diamond	James H. Heyl
Kentucky and Tennessee	H. S. McLaughlin	J. A. Brook
Northern Illinois	S. E. Barwick	Jack Brantley
Michigan	C. J. Ashton	Chas. W. Myers
Nebraska and Iowa	R. K. Eaton	W. M. Simpson
Minnesota and Iowa, East,	Charles Martin	Geo. Fleming (Clements)

Territory.	Chairman.	Alternate.
Virginia and Western		
Pennsylvania	T. H. Meed	
Southern Illinois	E. B. Eckart	E. E. Willett
Missouri, East,	R. S. Price	D. M. Lacey
Missouri, West,	C. W. Thornton	J. H. Hatcher
New York City	Rodney E. Browne	J. H. Lane
Arkansas	J. H. Smith	H. B. Houck
Alabama and		
Louisiana	W. A. Morton	
Louisiana	F. H. Campbell	J. D. Batchelor
Southeast Seaboard	W. C. Fellows	

The Chairman: I am going to ask that the delegates and alternates be at the Planters' Hotel at 12:45 tomorrow to take lunch with me and the other members of the committee on Sales and Distribution, and we will explain our proposition to you then—the chairmen and alternates.

The Chairman: I want some one to suggest a salesman to come on the platform to be examined to see what per cent efficient he is.

A Voice: Mr. Chairman!

The Chairman: Mr. Nelson.

Mr. Nelson: I suggest that the less you have to mark him down, the better. You want one that is good. The best one I know of is Ben Woodhead.

The Chairman: All right. Mr. Woodhead, come on the stage.

(Mr. Ben S. Woodhead comes on the stage and is given a seat beside a large chart.)

The Chairman: Without doubt the star paper read at the Texas Retail Lumber Dealers' Association was an address on Efficiency, delivered by Mr. R. J. Tolson, of William Cameron & Company, of Waco, Texas. While Mr. Tolson is practically engaged in the auditing end of the lumber business, he has been a close student of the lumber game, particularly along lines of efficiency, not only in his own department of auditing, but in retail and wholesale merchandising. I don't believe that there is any one person who believes himself 100 per cent efficient. It is also true that the average man is rather backward about analyzing himself. But nevertheless, when such an examination takes

Mr. Woodhead Submits to the Efficiency Test

place, the man who hopes to get ahead and make a success will endeavor to improve himself in the direction in which he finds himself deficient. Mr. Tolson's paper might suggest some points to you that you might need to develop. We are exceedingly sorry that Mr. Tolson cannot be with us; but Mr. Dionne, secretary of the Texas Lumber Dealers' Association, has agreed to read the paper. I would suggest that those of you who care to conduct this examination of yourselves take pencil and paper and score yourself as Mr. Dionne investigates how deficient or efficient Mr. Woodhead is. The twenty-three requisites are there on the chart. Mr. Dionne.

Mr. Dionne (reading): Efficiency and the Lumber Salesman. What Per Cent Are You Efficient? By R. J. Tolson, Waco, Texas. Mr. Chairman and Gentlemen: You have all heard the oft-repeated saying that "poets are born, not made." I am somewhat a believer in that theory, but I wish to qualify the statement by saying that even though a man be born a poet he will never be able to show his talent or genius until he has cultivated the finer qualities of his mind and soul by education, study and thought.

1. Health—The first on the list is Health. If your health is perfect you are entitled to 100 per cent in the percentage column opposite "Health." I do not know of any vocation in which health is so vitally essential as that of the traveling salesman. Unless you are feeling good, you are working under a most serious handicap. Good health is essential to a cheerful disposition, it is a stimulus to enthusiasm, it is the fountain source of energy and industry, and you all know how important these things are to a traveling salesman. Beside this, no man can have the best use of his mental faculties, unless he has good health. Unless you have good health you are sure to have a grouch, business will be on the bum, and you will likely blame your customers, your goods or your house for losing the business instead of blaming yourself. Is your health 100 per cent perfect?

Health the
First on the
List

Mr. Woodhead: I think it is 100 per cent.

The Chairman: We will give the gentleman 100 per cent (marking it down on the chart). (Applause). If you don't agree with his answer, you have the privilege of saying so.

Mr. Woodhead: I will take the liberty of saying that you can't embarrass me if you vote against me. Just vote the way you think.

Mr. Dionne (reading): Two—Energy or Industry. Energy or industry is the antithesis of laziness. It is the motive power which keeps us moving.

"It is the faculty which makes us forget time and distance and fatigue and sleep. It is the power which runs the machinery of our brain and converts our ideas or raw material into the finished product or results. Industry is ambitious, it is never satisfied, it works overtime, and is the tutor of genius. What is your percentage in energy and industry?"

Mr. Woodhead: I am going to claim 100 on that.

The Chairman: Shall we give him 100 on that?

Various Voices: Give him 100. No. Give it to him. We will give him a little further down the line. (Laughter.)

Mr. Woodhead: I know that.

Mr. Dionne (reading): "Three—Knowledge of yellow pine as a wood." Do you know the various kinds of yellow pine, and where they grow, and the difference in quality, density, strength, weight and specific values of each? Do you know the difference between long and short leaf, loblolly, old field, coarse and smooth grain, and the various other distinctions in the wood and the causes of such differences? Do you know the merits, usages and limitations of yellow pine as a wood, and know wherein that certain classes of the woods are suitable for certain purposes and for other purposes it is totally unfit? Do you know the probable visible world's supply of yellow pine, and where it is located? What percentage of knowledge do you possess on these questions?

Mr. Woodhead: Seventy-five per cent, I think.

A Voice: Too high.

The Chairman: How about 50, gentlemen?

Various Voices: Too high. That is about right. Yes, give him 50.

The Chairman: All right, we will give him 50.

A Voice: Isn't that supposed to be workable knowledge—actual, practical knowledge?

Mr. Woodhead: That is why I say 75, on a practical, and not a theoretical knowledge.

The Chairman: Well, we haven't any eraser, Mr. Woodhead. (Laughter.)

Health and
Industry, 100
Per Cent

His Knowl-
edge of Yel-
low Pine

Mr. Dionne reading: "Four—Knowledge of other competitive woods." What do you know about other woods which come actively in competition with yellow pine? Do you know the merits and limitations of these other woods as compared with yellow pine? Do you know what these other woods are, where they grow, what they are best suited for, and what they are worth on the market in your territory? In other words, what do you know about cypress, fir, spruce, red cedar and white pine? And do you know anything about those hardwoods which are coming into competition with yellow pine, such as birch, maple, poplar, oak and gum?

**A Low
Score on
Competitive
Woods**

What per cent are you efficient in your knowledge of the merits and limitations of these woods?

Mr. Woodhead: So far as they apply to my territory, why, I think I can stand 25 per cent on that.

Mr. Dionne: How much?

Mr. Woodhead: Twenty-five. That relates to hardwoods which come into contact and competition with yellow pine in Texas and the surrounding country where I sell pine. I know nothing about cedar, for instance. I don't come in contact with it. But these hard woods that are sold down there, I take 25 per cent.

A Voice: Fifty. How much?

The Chairman: Twenty-five. How much are you going to grade yourself on that?

Mr. Dionne (reading): "Five—Knowledge of other building materials." Do you know what are the principal kinds of materials which are in active competition with yellow pine for building purposes? And do you know the merits and limitations of these materials as compared with yellow pine? Do you know anything about the structural strength of iron and steel and wherein this product is better or inferior to yellow pine, and do you know the difference in cost when used for certain purposes? Do you know anything about cement, and brick and stone and tile and plaster and wall coverings, prepared or patent roofings, and other materials which are used as substitutes or as curtailments of the use of yellow pine? Do you know the price of these articles in your territory, their value and limitations as competitive products? What is the percentage of your knowledge on this subject?

**Knowledge
of Substitutes**

Mr. Woodhead: I don't know anything about steel.

The Chairman: As a salesman of yellow pine, how much do you consider yourself efficient on your knowledge of good substitutes—to put it in a more general way?

Mr. Woodhead: Well, I would put it at about 20 per cent.

The Chairman: You are very modest. Can't we give him more than that?

A Voice: Yes; thirty.

Mr. Woodhead: The way that question is worded, it comes to theoretical knowledge. I have got no information on that; I have got practically nothing.

The Chairman: How are you going out to sell lumber against steel and concrete, if you can't talk on it?

Mr. Woodhead: Well, on modulus of elasticity, and all those other technical things about steel, I can't do it. I sell lumber from the practical knowledge I have.

Various Voices: Twenty. Twenty-five. Thirty. He knows the business sufficiently if he has sense enough to get that business, and I think he is efficient.

The Chairman: The idea is to suggest to the lumber salesman the possibility of the game; that is the idea. We don't suppose any man would grade very much on some of these essentials. It is just to suggest the idea; open up the avenue of thought.

Mr. Woodhead: Just taking that point: I once had a discussion with a man in Mexico as to the relative merits of wood ties and steel ties, and this particular road was using steel ties. Well, I had no technical education on steel ties, but in the course of my experience in selling ties I had heard a great many arguments, pro and con, on that subject, and I was in somewhat of a position to argue the question with him, and did so, and got away with their order for 100,000 ties. I say, to that extent I was efficient.

The Chairman: We will give him 40.

A Voice: That proportion of 40 per cent is out of line, for the business he is specializing in.

The Chairman: As I explained to you gentlemen over here, we don't presume that there is any salesman here that will grade 100 per cent efficient, nor do we believe, honestly, that it is necessary. We are just trying to suggest the possibility of the training to round out a complete man. Now, we don't presume that

anybody will be able to make a technical argument on the difference between concrete and iron in mill construction, but we do believe that he should have a smattering of it, some information as to the differences and relative cost.

Mr. Dionne (reading): "Six—Knowledge of the methods and cost of manufacture." Do you know how lumber is manufactured? Do you know the evolution of the log from the time it leaves the forest until it reaches the finished product ready for shipment? Do you know how many separate operations are required to convert a log into boards or dimension or finish? Have you any idea of the cost of each separate operation, and why it costs more to manufacture one kind or dimension of lumber than another, and how the cost is distributed to the several grades? Do you know why one length is worth more or less than another length of the same dimension? Do you know anything about the percentage of grades which an average bunch of logs will develop in manufacture, and the basis or rule by which the cost of one kind of yellow pine lumber is placed at a higher price than another? Do you know anything about special cuttings in the manufacture of lumber, why it costs more to fill an order for special cuttings, and how to figure that additional cost? Do you know the several component parts of the cost of yellow pine lumber, the stumpage, the logging, the hauling, the sawmill, the trucking, stacking, drying, planing and loading, as well as the overhead or fixed cost which are all a part of its value? If you know all these things you are entitled to 100 per cent on manufacture; if not, you will grade yourself according to your knowledge.

**As to Cost
and Method
of Manufacture**

Mr. Woodhead: Well, I can answer nearly every one of those questions.

A Voice: One hundred per cent.

Mr. Woodhead: No, I can't claim 100 per cent on it. I claim 85. Those are questions that enter directly into my line of business, and I figure them very nearly every day, and I believe I could claim 85 per cent on that.

A Voice: Well, make it 90.

The Chairman: He gets 85 per cent.

Mr. Dionne (reading): "Seven—Knowledge of grading rules." Have you ever sold a bill of lumber, and some time later, when you called on your customer he would tell you that was the

**Knowledge
of Grading
Rules**

bummest lot of stuff he ever saw, and that it was not near up to grade, and that he wanted you to step out and see it and pass on the grades? I am sure you have. Were you then prepared to show him that he was absolutely wrong and to point out the fact that it was in reality above grade, instead of under grade? Could you quote the grading rules to him from memory and show him by the inspection of each stick or board that it was up to grade, and that your firm or mill did not rob him? In fact, do you actually know all about knots, their size, form and quality and how many different kinds there are? Do you know all about pitch and sap and wane and stains and checks, splits, grains, etc., and how many of each of these defects are allowable in each grade and kind of yellow pine lumber according to the length of the piece? If you can tell each of these things you are entitled to 100 per cent, and should get a special prize for efficiency besides. In grading yourself on the grading rule you must grade yourself by the rules, and not by the appearances of the lumber. You can probably make a correct guess as to the proper grade of a piece of lumber by appearances, but we cannot always tell the grade of efficiency of a lumber man by appearances. What per cent are you efficient in the knowledge of grades?

Mr. Woodhead: Well, as the gentleman has expressed this question, I would have to take a pretty low efficiency, because I can't quote those rules from memory.

The Chairman: We will strike that out.

Mr. Woodhead: The first part of that proposition, going out on the yard, I am an expert at that. I have been doing that a long time; and I claim on grading rules, 75 per cent.

The Chairman: What shall we give him, gentlemen?

A Voice: That is right.

Mr. Woodhead: I can grade everything except flooring and ceiling. I can grade some of that, but I am not good on it.

A Voice: Let Mr. Rhodes grade him on that.

The Chairman: Mr. Rhodes didn't hear the question, gentlemen, and we haven't time to read it. I will give him 75—I will raise it ten, and make it 85. (Applause.)

Mr. Dionne (reading): "Eight—Market conditions, prices, etc." The lumber salesman should not only know the prices of every item on his list of standard cutting at the mills ready for shipment, but he should be able to quote promptly, without re-

ferring to his price guide and figuring several minutes, the prices of any kind of yellow pine lumber that his mill or firm will manufacture. As before stated, he should be as familiar with the price or cost of special cuttings as he is with ordinary stock stuff. He should also keep in close touch with the capacity of his mills for certain kinds of cuttings and grades and shipments, and should know at all times the quantities of each kind of stock on hand, by a close study of the stock sheets, in order that he may be able to co-operate with the sales manager or mill in moving surplus stock or in pushing those items which are most profitable, as well as to avoid the mistake of overselling or promising shipment on something which cannot be gotten out in a reasonable time. The traveling salesman should also be a student of the lumber market in its broadest sense. He should be thoroughly familiar with every condition which has affected or which might affect the market, and he should be prepared to answer any question correctly and intelligently as to the cause of any marked fluctuation in the price of lumber. He should be able to perceive the economic relationship between prosperity and its stability. He should also be able to forecast the probable eras of business depression so that he may protect his firm from the evils of overselling to financially weak concerns. Are you efficient in these things? If so, what per cent?

**Market
Conditions,
Prices, etc.**

Mr. Woodhead: Not exactly in the language of the question, but as I understand the interpretation of that phrase, market conditions and prices, I claim 100 per cent, because I make my living that way.

A Voice: Give it to him.

Mr. Dionne (reading): "9. Traffic rates and transportation." The lumber salesman should be somewhat of a traffic man. He should be perfectly familiar with the cost of delivery of any kind of lumber to any given point in this territory. To do this he must know the freight rate and the weight of each class of yellow pine lumber. He should know the approximate number of feet required to make up a minimum or maximum car of any one kind of lumber, and the same if in mixed cars. He should also be familiar with the best routing from his mill to the customer and be prepared to answer any reasonable question his customer might ask relative to weight, rate, transportation, routing, etc., etc. In these things, what per cent are you efficient?

**Traffic
Rates and
Transporta-
tion**

Mr. Woodhead: Well, that is rather a narrower interpretation than I had given myself. Thinking the matter over this morning, I believe, as it is expressed there, I can claim 75 per cent.

A Voice: Oh, 100 per cent.

Mr. Dionne: You can do a little better than that, can't you?

The Chairman: Gentlemen, what shall we credit him?

A Voice: Give him 100.

The Chairman: All right, we will credit him 100.

A Voice: You are not supposed to know all the rates.

Mr. Dionne (reading): "10. Retail merchandizing." I believe, as a rule, lumber salesmen fail to appreciate the immense value of a knowledge of the retail lumber business, but in my judgment such knowledge is inestimable. The more you can find out, learn or know about the retail end of the lumber game, the better you will be prepared to play your cards to win.

If you sell direct to the retail dealer and can show or demonstrate to him that you are familiar with the demands or requirements of the trade, that you know about what would constitute a fair stock or assortment of the various kinds and grades of material, the purpose for which they are used and the general methods of conducting a retail lumber yard, the closer will be your relationship with him. Under these circumstances your customer will have more respect for your business knowledge, and then it will be easier to obtain his confidence.

If you are familiar with the demands of the local trade and know the usages for which the several kinds of lumber are intended, you can frequently be of considerable assistance to a retail lumberman in making up his order, and once you are called upon by him to assist him in that, or in any capacity, you have cemented his friendship and you have created what we call non-competitive business.

If you show a knowledge and familiarity with the retail end of the business, your customer (provided he is the retail dealer) will frequently call on you to assist him in landing a job in his town or community, which means more business for you as well as his yard.

In addition to having a general knowledge of the retail lumber business in your territory, you should have a specific knowledge of how each of your customers conducts his particular or individual business. Of course you must use tact and use your

Retail
Merchandizing

How the
Salesman
Can Aid His
Customer

eyes and ears to get this knowledge and information; if you are a good business man as well as a good salesman you might sometimes prefer not to sell this particular customer, as loose methods of conducting a retail lumber business are examples of inefficiency, and inefficiency is the forerunner of loss and failure.

Therefore, what do you know about retail lumber merchandizing? You may grade yourself accordingly.

Mr. Woodhead: I want to say that I was in that business two or three years, and I claim 60 per cent on it.

A Voice: Seventy-five.

The Chairman: We will give him 60.

Mr. Woodhead: I think 60 is fair enough. I don't think I am entitled to any more than that. I don't mean by that that I actually ran the yard myself. I was part owner of five or six yards, and directed them for two or three years and made money out of them.

Mr. Dionne: This question does not necessarily imply that a man must have retail yard experience, any more than you would have to go into the steel business in order to have knowledge of what they ask there about other building material—steel and cement. It is what you know about it.

A Voice: Seventy-five.

The Chairman: All in favor of 60 hold up their hands. All in favor of 75 hold up their hands. Sixty has it.

Mr. Dionne (reading): "11. Courtesy." Courtesy is perhaps the finest accomplishment of a human being. It is the badge of refinement; it signifies consideration for others; it bespeaks unselfishness, it creates good will, it makes friends, it makes business, it makes money! It costs nothing but produces more profit than all the side lines in the world. It is a tremendous factor for success in every business, and it is one of the chief essentials of a lumber salesman.

**The Value
of Courtesy**

Are you courteous? If so, what per cent?

A Voice: Without going any further, gentlemen—he is easily entitled to 100 per cent. (Applause).

A Voice: I had the privilege of working for Mr. Woodhead a number of years and I want to grade him 100 per cent.

The Chairman: One hundred.

A Voice: Make it 110.

Mr. Dionne (reading): "12. Truthfulness and honesty." The day has passed when a man, firm or corporation could be dis-

**Truthfulness
and Honesty**

honest with his trade or customers and still succeed. That "honesty is the best policy" in business was never more truthful than today.

One of the biggest assets of success for any traveling salesman to possess is the confidence of his customers, and there is no surer or better way to obtain the confidence than by being absolutely honest and truthful in your dealings with your customer. By being honest with him is to never misrepresent, or tell him an untruth, even though you miss the opportunity of selling a bill, and to never take advantage of his ignorance or inexperience. If he asks you if you can ship a car of a certain kind of material at once, and you know it is impossible, the thing to do is to tell him so. In other words, a traveling salesman is jeopardizing his business by making any kind of misrepresentation or telling any kind of an untruth to get business. As sure as you do, your customer will find it out, and you have lost his confidence and his trade.

In addition to being honest with your customers or trade, are you honest with your firm? Are you honest in giving your firm the full time for which you are paid? Are you honest in your expense accounts? Are you honest or truthful in your statements? If you are not honest in all these things, it will not be long before there will be a lumber salesman out of a job.

Are you honest and truthful to your trade and your firm? If so, how honest? You may record your per cent according to the dictates of your conscience.

Mr. Woodhead: Gentlemen, I would be untrue to myself, and to those high ideals that have always governed my conduct, if I claimed one-tenth of 1 per cent less than 100. (Applause).

Mr. Dionne (reading): "13. Self-control." Self-control is the brake which our Creator has attached to our mental machinery and is intended for us to apply or use when we find ourselves in danger of slipping down the hill or over the precipice into the chasms of error. Self-control is a product of civilization. Savages have none. Self-control is a fire escape which keeps us from being consumed by our passions. It is the safety valve which keeps our feelings from bursting into anger or fury. Self-control is the stern guardian of our desires, and warns us against our follies, and is the vigilant watchman who warns us always of the approaching danger, with the oft-repeated words—Think! Stop! Look! Listen!

Self-control is a power which not only enables us to control ourselves, but others. Without it we would be weak. With self-control we are strong, and being strong, we will be sure to win.

Self-control is, therefore, an important factor in business, an essential element of personal efficiency, and a promoter of power and success.

What per cent will you grade in self-control?

Mr. Woodhead: Is the application of that limited to business and business life?

Mr. Dionne: Oh, I should judge so.

Mr. Woodhead: Inside of business life I claim 90 per cent. I don't know whether you will give it to me or not.

A Voice: Ninety is all right.

The Chairman: Ninety.

Mr. Dionne (reading): "14. Confidence in self and your goods." "Faint heart never won fair lady" is a saying that can be applied to business. If you have a faint heart, a timid hesitation, a lack of confidence in yourself or the product which you sell, you will never woo or win the favors of the fair goddess called Success. In order to win, you must absolutely conquer Fear.

**Confidence
in Self
and Your
Goods**

To be a successful lumber salesman you must enthusiastically believe in yourself and in the lumber you sell. By believing in yourself, I do not mean that you should be egotistical or vain. Egotism and vanity are the virtues of fools. That confidence in self which the true traveling salesman should have is that confidence which is born of ability.

Lack of confidence is an acknowledgment of weakness. Weakness has no place in the makeup of efficiency. You must believe in yourself and your goods, and what you believe will be! Have you confidence in yourself and in the product you sell? If so, what per cent?

Mr. Woodhead: I think it is 120, myself.

The Chairman: One hundred per cent.

Mr. Dionne (reading): "15. Loyalty." Loyalty is a superb blending of appreciation and faith and patriotism, and is one of the noblest attributes of man. Loyalty is the tie which binds friend to friend, man to man. It is that quality which soothes the pain of sacrifice, which makes it easy to forgive, which closes our vision to the faults of those who have befriended us.

**Loyalty a
Business
Essential**

Loyalty to your firm is like patriotism to your country. Without it you are a traitor. It is that quality which arouses you to arms in defense of your country, and likewise would cause you to resent an insinuation against the character of your firm as an insinuation against yourself. Loyalty is that characteristic which makes you a part of your firm; therefore, it is a splendid essential in business efficiency. Are you loyal? If so, what per cent?

Mr. Woodhead: Well, I don't like to claim all the hundreds in the calendar.

A Voice: You are entitled to it.

Mr. Woodhead: I am going to say that I believe I am 100 per cent loyal. (Applause).

Mr. Dionne (reading): "16. Personal neatness." A man's personal appearance in any line of business may often be the direct cause of his success or failure at the critical moment. The world judges very largely by appearances, and first appearances are most lasting. Therefore traveling salesmen should look well to their personal appearance by being neat in body and in dress.

The Importance of Personal Neatness

A well kept, systematic, clean, orderly and attractive store or establishment of any kind suggests thrift; and on the same line of suggestion, a well groomed, well dressed man creates the idea of thrift, prosperity and success, and "nothing succeeds like success."

On the other hand a man who is slovenly in his general appearance, with unshaven face, unshined shoes, soiled collar and cuffs, suggests laziness, and laziness creates contempt, or disrespect.

Customers very frequently form their ideas of a wholesale concern from the appearance, actions and characteristics of their traveling representatives. Therefore, create a good impression. Be a credit to your firm, and let your personal appearance be such as to suggest thrift, industry, prosperity and success, and it will make you more successful, therefore, more efficient.

What per cent are you entitled to in neatness?

Mr. Woodhead: What time of day? In the morning I am all right.

The Chairman: What shall we give him?

Various Voices: Ninety-eight—100—75—100.

Mr. Woodhead: I didn't know this was coming or I would have fixed up a little.

The Chairman: One hundred.

Mr. Woodhead: I hate to be in jeopardy twice. I have already passed on truthfulness.

Mr. Dionne (reading): "17. Tact and judgment." Tact and judgment are almost synonymous terms which denote two of the most important mental faculties which a business man should possess.

**Tact and
Judgment**

Judgment is the judge enthroned in the court of our reason, before whom we submit all questions of doubt and expediency. Judgment never errs in his decision, yet judgment never gives advice unless asked, because judgment is cautious and discreet.

Tact is an attorney in the court of our reason; shrewd, artful, keen, to whom we refer our delicate and intricate problems for adjustment. But tact never fights a case in court. He arbitrates. And yet he always wins or gains the point desired. Tact never blunders, seldom fails, is popular and has no enemies.

Without judgment and tact you cannot be efficient. What is your percentage in judgment and tact?

Mr. Woodhead: Mr. Chairman, I can see that judgment and tact are not synonymous, according to my interpretation of those terms, and I don't know whether I can strike an average on them or not, because there is a difference. I would claim 80 per cent; because judgment is a very rare quality, and we all make mistakes. No man is perfect in that.

The Chairman: What shall we give Mr. Woodhead?

A Voice: What he claims.

The Chairman: Eighty per cent.

Mr. Dionne (reading): "18. Personality, address, approach." We now come to that element of efficiency which we can see in others, but we cannot describe. That intangible something which commands attention. That magnetic influence which makes you look and look again, and listen, and listen again. I do not know whether the quality is physical or mental, or both, but whatever it is, it is called "personality."

**Personality,
Address,
Approach**

There are various kinds of personality, but all are distinctive in character or temperament. The kind that I am speaking about is the one I have just outlined, the kind that commands immediate attention when you walk into a man's place of business, the kind that makes your customer greet you first, the kind that makes your customer feel that he would like to know you better and more intimately, the kind that makes your customer glad

when you call and sorry when you leave, the kind that makes your customers save their orders for you, the kind that creates enthusiasm, good cheer, smiles, and makes a man forget his troubles. This is the personality that wins. This is the personality which counts 100 per cent in efficiency. What per cent have you?

Mr. Woodhead: I refer that to the audience.

A Voice: One hundred.

Mr. Woodhead: Don't give me more than I am entitled to. Let's be honest about it.

A Voice: Give him 90.

The Chairman: We will make it 75.

Mr. Dionne (reading): "19. Initiative and originality." The man who waits to be told to do everything, who works by the rule and clock, who never does more or less than the routine duties prescribed for him, will never rise above his present position. Few men are ever paid for anything more than what they earn; therefore, the man who is not increasing his earning capacity is seldom increasing his earnings. To increase your earnings is to develop your capacity for work and make the work bring results. This requires initiative and sometimes originality. The most successful men in business are generally the ones who created their own positions; that is, they developed the jobs they had from comparatively insignificant to executive positions. The man who cannot improve his job, create new responsibilities, broaden its scope, increase its results and improve its efficiency is not the man the modern business men tie to. Business men of today are on the alert for men with ideas, men with initiative, men with originality, men who can develop the positions which they hold to the maximum of efficiency.

This is especially true with reference to traveling salesmen. Sales managers want salesmen with initiative, with originality. Without it you will never progress. Have you got it? If so, what per cent.

Mr. Woodhead: I don't think I have got them both in equal measure. I would claim 80 per cent on initiative, and about 60 on originality.

The Chairman: That makes 70. How about 70, gentlemen?

A Voice: Give it to him.

Mr. Dionne (reading): "20. Economy and profits." By economy, as it relates to a traveling salesman, I mean the ability to sell at the minimum cost.

Initiative and
Originality

Economy
and Profits

Some salesmen have enormous sales, but the cost of selling is so great that it offsets the profits. Other salesmen may only sell one-half the quantity in a given length of time, and yet the net profit on their sales may be greater than that of the man who holds the record for volume. Volume is a fine thing under certain conditions, which I will enumerate, but it is all wrong unless it is accompanied by profit.

Profits, as made in the wholesale lumber business, may be created in two ways: First, by the margin or difference between the cost of the lumber delivered at destination and the price at which it was sold. From the profit, which is termed the gross profit, the cost of selling the lumber must be deducted, which leaves the net profit. If the gross profit on a car is only \$20, and it costs \$8 per car to sell it, your net profit on that car of lumber is \$12. Therefore, if you have a fixed market price at which you must sell your product there is only one other way you can increase the profit, and that is by decreasing your expenses, or by increasing your sales without increasing the expenses. Thus if you sell 60 cars this month, and your expenses are \$200 for the month, it has cost \$3.33 per car to sell. But if you can sell 120 cars this month without increasing your expense account, the cost of selling is only \$1.67 per car. But if you double your sales from 60 to 120 cars per month, and double your expenses also from \$200 to \$400, your cost to sell, per car, is exactly the same on 60 cars as it was on 120 cars.

Therefore the efficient traveling salesman watches his expense account; he keeps in close touch of his record of cost to sell; he strives from month to month to increase his profit, to reduce his expenses and to decrease his cost to sell per car. Are you efficient in this respect? If so, to what extent?

Mr. Woodhead: That proposition, in its last analysis, is the amount of profit per thousand feet. I am disregarding, to some extent, the question of economy, because my sales always cost me more than some others' do. I claim 90 per cent.

The Chairman: Shall we give him 90? All right—90.

Mr. Dionne (reading): "21. Knowledge of human nature, psychology." One of the most superb mental qualifications for a traveling salesman to possess is the ability to quickly judge human nature.

**Psychology
for the
Salesman**

The faculty is, to a large extent, intuitive; or I might better express it by saying that the ability to judge human nature is a species of psychological instinct.

This is the faculty which will tell you almost what your customer is thinking about when you are trying to convince him that he should give you the order, and it enables you to anticipate his objections or questions before he has uttered them. This faculty is also the power to determine the truth of any statement which might be made by your doubtful customer; it tells you of your customer's peculiarities, and thus enables you to be on your guard, and not offend. It enables you to recognize honesty and dishonesty, and to determine the good from the evil in human nature. Psychological power or instinct is a mental detective, a sort of "Old Sleuth" of our brains, which finds out and tells us things about others in strange, mysterious ways. It, like all detectives, works secretly, and were it not for the information it sometimes gives us about others, we would make serious mistakes.

The power to judge human nature can be developed and cultivated by being observant, and watchful of all those with whom we come in contact; and it is exceedingly valuable in business, and especially in the art of salesmanship.

Do you possess these qualities of mind? If so, what per cent?

Mr. Woodhead: I would rather the audience would pass on that, I believe.

Mr. Dionne: No.

Mr. Woodhead: Seventy-five.

The Chairman: Seventy-five the gentleman wants.

A Voice: Too high.

Mr. Woodhead: Well, wait a minute. Some say too high. Speak out! You can't hurt my feelings.

Various Voices: Sixty; about 65; 75.

The Chairman: Seventy-five.

Mr. Dionne (reading): "22. Co-operation." By co-operation I mean team work, team work with your sales manager, team work with your mill, team work with your customers.

It is by team work that we are enabled to cover distance, to accomplish gigantic tasks, pull the heaviest loads, and by team work we can always make better progress up the rugged, rocky, narrow road of success.

By team work, co-operation, the burden of the "pull for business" is more evenly distributed, our tasks are lightened, and we

finish the day's work with greater distances, and greater results, and with less fatigue than if each pulled for himself, in as many ways as there were men.

The value of team work, co-operation in business, is enormous, and when practiced by traveling salesmen in conjunction with all those who are associated with them, is a part of efficiency.

Do you practice team work? Do you co-operate? If so, what per cent?

Mr. Woodhead: I am billed to deliver an address tomorrow on "Co-operation," and I think, if it comes to going into anything heart and soul, I can get 100 on that. (Applause).

Mr. Dionne (reading): "23. Wisdom." We now come to the last of the list of essentials for a traveling salesman, and probably the greatest. This essential qualification is wisdom. Wisdom might by some be confused with knowledge, or with judgment, but wisdom is different:

**Wisdom—
the Salesman's
most Val-
uable Asset**

Knowledge is that technical or specific information you acquire by study or work about a certain thing, trade or profession.

Judgment is the ability to decide correctly between two or more paths which lead in different directions, or the ability to determine the right from the wrong, the good from the bad. Judgment, as before stated, is the judge which presides in the tribunal of our minds.

Wisdom is still greater. Wisdom is the guardian of all our mental faculties, and is the tutor of knowledge. Were it not for wisdom, all the knowledge you possess would be valueless. Knowledge is something acquired. Wisdom is an inborn faculty. You may teach a parrot to talk, but lacking wisdom, it does not know what it says. Thus, to obtain the best results from the knowledge you possess as a traveling salesman, you must have that executive faculty called wisdom to direct its use, and thereby obtain the best results.

To be absolutely efficient you must therefore have wisdom.

Are you wise? If so, what per cent?

Mr. Woodhead: As applied to my business career, of course?

Mr. Dionne: Rather as applied to lumber salesmanship.

Mr. Woodhead: As applied to lumber salesmanship? Well, if it is limited to the application, lumber salesmanship, I can claim 85 per cent.

The Chairman: We add all of these, divide by 23, and the answer is—we get it here $83\frac{1}{2}$ per cent.

A Voice: Pretty good salesman. (Applause).

Mr. Dionne (reading): These twenty-three essentials which I have just named, and briefly analyzed, are, I think, the necessary qualifications for a 100 per cent efficient modern lumber salesman. If you have graded yourself as I enumerated them, and have been honest enough with yourself to try and not run in your No. 2 qualities for No. 1 and B and Better, I am sure you will not be denied your legitimate claims for your true grade as a traveling salesman.

(Mr. Tolson's address in full will be found on page 286).

A Voice: Mr. Chairman!

The Chairman: Captain White!

Captain White: I have known Mr. Woodhead for a long time. I never expected that he would be able to pass such an examination as this. (Laughter). I am bound to believe that he is entitled to the credits that you have marked up for him, because he admits it himself. (Laughter). He has done it in a very fine, courteous and gentlemanly manner; and he has meant to be truthful and honest, and I therefore suggest that this body of salesman accept the candidate as a model for their future guidance—a model being, as I understand, a good imitation of the real thing. (Laughter and applause).

**Captain
White Is
Impressed**

The Chairman: This completes the program for the afternoon. I wish the committee on sales and distribution of the Southern Pine Association to meet me on the stage tomorrow morning at 9 o'clock. Be prompt, because we want to discuss plans for the noon luncheon. The regular meeting will convene at 9:30. I am glad to say that we have a telegram from General Boyle, in Washington, that he will be here to address us, and I can promise you a rare treat tomorrow morning. Louisiana and Arkansas, please come up and report. Everybody must be here at 9:30 tomorrow morning.

At this point, at 5:30 o'clock, p. m., the school of salesmanship took an adjournment to 9:30 o'clock a. m. on the following day.

WEDNESDAY, JUNE 28, 1916—FORENOON SESSION.

Pursuant to previous adjournment, the school of salesmanship reconvened at the American theater on Wednesday, June 28, 1916.

The meeting was called to order at 9:30 o'clock a. m. by Harry T. Kendall, chairman.

The Chairman: Come to order, gentlemen. We are going to vary a great deal from the printed program today. A number of addresses on the program will be eliminated entirely, but all will appear in the record. We are going to endeavor—if you will give us your full attention—to devote the larger part of the afternoon to discussion. In fact, we are going to have all the papers or addresses delivered this morning. I am going to introduce to you Mr. W. M. Beebe, manager of the yellow pine department of the Long-Bell Lumber Company of Kansas City, Mo., who will address you briefly on the subject of "Selling Costs, Direct and Indirect." (Applause).

Mr. Beebe
Talks on
Selling
Costs

(Mr. Beebe's paper will be found on page 255).

The Chairman: The next paper on the program this morning is "Co-operation From the Sawmill," an address by Mr. Charles E. Martin of the Sabine Lumber Company, Cedar Rapids, Iowa. Is Mr. Martin in the hall? (Mr. Martin comes forward and mounts upon the stage). Mr. Martin! (Applause).

Mr. Martin on
Co-Operation
from the
Saw-Mill

Mr. Martin: Mr. Chairman, Fellow Salesmen and Gentlemen: (Laughter). When I received the notice to address this assembly I didn't let the chance pass. There are a great many men better adapted to the subject than I am, but I don't overlook anything like that. Cedar Rapids and the state of Iowa has produced some very prominent men—Senator Cummins, and Stanley Dodd, and the Carey sisters, and Pat Crow, and myself. I am about as prominent as any of them.

When I received my subject I wasn't instructed very definitely, and it would appear that I might cover the whole business. (Laughter). You will pardon me for the rather indefinite manner in which I have treated this subject, because I didn't know exactly what was expected of me. My wife wrote this thing, and I will have to read it. (Laughter).

(Mr. Martin's paper will be found on page 243).

The Chairman: The National Lumber Manufacturers' Association is doing a great work for the industry, not only in handling

problems that affect all branches of the industry in all sections of the country, but in promoting a general advertising campaign for the use of wood and furthering the use of wood. Mr. E. A. Sterling, manager of the Trade Extension Bureau of the National Lumber Manufacturers' Association, will address you on the "Merits and Limitations of Wood." (Applause).

Mr. Sterling: Mr. Chairman and Gentlemen: It did not seem feasible for me to give you in a paper or in an address a whole lot of the details about wood. You know a great many of these now. You probably should know a great many more of them. But it is not a thing that you can get by some one standing up before you and telling you about it. It is something that you have got to dig out for yourself. So what I have done in this very short paper is to review some of the things that you already know. It is absolutely nothing new, that you don't know and never heard of, but I am representing these simple statements. We are handling a product we all know so long and know so well that we have overlooked from the standpoint of the consumer some of its plain, common, everyday advantages.

(Mr. Sterling's paper in full will be found on page 199).

The Chairman: When I introduced Dr. Hermann von Schrenk to you the other day I didn't have an opportunity of telling you that he is one of the leading authorities in this country on wood. I was down in a little town in New England about three weeks ago and mentioned something about yellow pine, and they asked me for my authority. I said that Dr. Hermann von Schrenk said so, and they believed me without further question. It is my pleasure again to introduce to you Dr. Hermann von Schrenk.

Dr. von Schrenk: Gentlemen: I have prepared a most beautiful manuscript. I will keep that in my pocket, however, and say a few words without the same. If you care to, you can read what is in the manuscript after it is in print.

(Dr. von Schrenk's paper in full will be found on page 218).

Mr. Sterling, to my mind, hit on the keynote, the modern merchandising of yellow pine; and that is, that you must know something about yellow pine to sell it. My impression, in going about the country for a good many years, both among retailers and consumers, is that the problem which confronts us today in getting the public to not only appreciate but actually buy our material, is to tell them something about it, and to tell them some-

Mr. Sterling
on the Use
of Wood

The Value
of Knowing
Your Product

thing about it in a way which is at least equal to, and possibly better than the men who are promoting the so-called substitute material. One of the greatest difficulties that has confronted those who are promoting the sale of lumber is that they talk grades, lengths, widths and practically nothing else. The time has gone by when that is going to put lumber in the position in which it ought to be; in other words, the time has gone by when that will suffice to hold the normal, natural, sentimental hold on the common American people. Mr. Sterling has told you that lumber has certain qualifications for its proper application. But you really don't have to say very much. You only have to appeal to the fundamental sentiment which is in the public already, and emphasize that, and impress that with undisputed facts, in order to put it across.

What kind of facts are to be mentioned? I haven't time here this morning to more than skim over a few of those. The kind of facts that the public demand refer specifically to such points as Mr. Sterling has mentioned; certain physical and chemical qualifications of the material—strength, lightness, suitability to fire or fire resistance, as the case may be, hardness and softness, and a hundred and one qualifications which any physical material has. The first thing, it seems to me, and always has, for a person who is promulgating a certain specified item is to be so very conversant with every possible technical phase of the qualifications of his material, that no matter what the question will be, he will be in a position either to say that is not so-and-so, or to frankly admit it, and say: "I don't know what the facts are, but I will obtain the information for you."

**Facts That
Appeal to
the Public**

Now, in spite of the publications and various pamphlets issued by these various institutions, it is not very surprising that many of us don't know all these facts. But, in addition to the facts obtained by reading, to me very much more important are the facts obtained by actual knowledge. I had an assistant not many years ago, a graduate of a university, with two or three years of railroad experience in the lumber department, whom I sent down to a Southern point to do some inspection work. After he had been there for a certain period of time he became greatly dissatisfied, and said to me one day: "There is nothing much to do down here. I want to do something." I asked him: "Why don't you investigate the qualifications of the woods in this particular locality?" "Well," he said, "I don't know what to do."

**Study Yellow
Pine
in Use**

I said: "If you are serious about that I will expect from you within six months a report of all the lumber in this district suitable for shingles, within a radius of ten miles." He said: "How am I going to do that?" In less than six months I had a voluminous report on shingles. He had fellows climb up on ladders and swipe a shingle or two from houses and barns, and he had a mass of information with respect to the particular qualifications of the woods for shingles. Now every one of you, in going about the country, have opportunity to examine particularly effective results of the applications of yellow pine; and I am going to speak particularly of the defects of yellow pine.

Now let me rapidly analyze one or two of those. One of the principal causes of trouble, which I had occasion to refer to day before yesterday, is the question of distinguishing the species. Why is short leaf, and why is long leaf, and so on; and you have had those shot to you. The reason that this question has been such a long-standing source of trouble is that we haven't had a technical basis on which to talk squarely and right out about that. As I said the other day, we now have a rule that is a very logical rule, prepared by the United States Forestry Service, and approved by the leading technical societies, which has become practically a standard from one end of the country to the other—it is what we call the Density Rule. The Density Rule is a practical, every-day, common-sense method which every man can use to indicate in a broad way the difference between a heavy stick of wood and a light stick of wood. The weight per cubic foot, or its density, is a criterion of strength, irrespective of whether it is yellow pine or any other wood; but, referring to yellow pine, the heavier it is the stronger it is. We cannot weigh every piece, but the next best thing is to find something ocular, entirely, and it is found by taking the average of the rings in the third, fourth and fifth inches from the pith and measuring the number of growth rings. Each of the growth rings has two parts, a light colored part, or spring wood, and a dark colored, or summer wood; and if there are at least six growth rings to the inch, and these have an average of at least one-third summer wood, it makes what we call a dense piece of pine. Forget about short leaf and long leaf! It has nothing to do with it. Forget about grade! It has nothing to do with grading. It is the classification of the wood itself. But if there are not six annual rings, that is, if there are less than six rings on

the average, it must have at least one-half summer wood to class as dense yellow pine. In fact, under that classification probably 95 per cent or more of the timber which will fall in that grade will belong to the long leaf variety, and a comparatively small percentage of short leaf will be represented. The builder of the house, however, doesn't care whether it is short leaf or long leaf or loblolly. He wants a strong stick. Now, any piece which does not come within that, is a piece which is secondarily fitted.

Now that density rule applies specifically to strength. It has, so far as we know, nothing to do with the lasting power. Lasting power is taken care of by the percentage of heart and sap wood. And that brings me to the next point, the question of decay. A pine tree growing in the woods up to its seventieth or eightieth year, possibly a little longer, is usually free from any kind of diseases or defects. After the period mentioned, that is, after about the seventieth year, and then it may run up to the 150th, in some instances, it is subject to one or two defects—using a broad classification—a defect which starts in the top of the tree in the heart wood and goes down, and another which starts at the root in the heart wood and grows up. Of those two defects, the top one is usually known as red heart, or dote disease, manifested by red discoloration of the wood, and later on by little white pockets. The bottom rot is manifested by discolorations of the heart wood and ultimate decay. The wood will then crumble into fine powder in your fingers. Now, those two types of disease are caused by fungi growing in the trees. Their growth stops absolutely when the tree has once been cut. In other words, the red heart disease stops the minute the tree is felled; it does not continue in the manufactured lumber. On the other hand, after the lumber has once been cut, there is a host of different organisms, both insect and fungus, that start to grow in that wood, and as a result causes what we call dry rot, moist rot, black rot, and all sorts of decay, which, however, from a practical viewpoint, have absolutely no significance. They don't mean anything. This type of decay first occurs in the sap wood. In other words, if you cut off all of the sap wood, the length of life of the heart wood would be fifteen, eighteen, twenty or more years, depending on the location. Blue stain is caused by a fungus, the spores of which will germinate on a pine board within a few hours after it is put in the pile, and grows with astonishing rapidity, but it does not affect the fiber. In other words, the blue stain does not in the slightest degree weak-

**Density Rule
Measures
Strength**

**Diseases
That Attack
Trees and
Lumber**

en the wood for structural purposes. That was very exhaustively tested by the United States government laborator and in Germany. Blue stain, therefore, is simply a question of appearance; it has nothing to do with strength. Furthermore, it occurs always in the sap wood, and never in heart, and therefore is always a good criterion as to what constitutes heart wood and what constitutes sap wood. The modern mill man has taken steps to prevent blue stain by dipping, the dipping consisting of immersing the board at the end of the sorting table in various chemicals, sodium, carbonate or baking soda and various other chemicals, the cost of which runs within about 10 or 11 cents per thousand feet, board measure, according to the cost of the chemicals employed. That method is very effective, does not harm the lumber, and does not increase or decrease the strength of the material from a structural standpoint, and is in every way a very desirable proceeding.

The fungi which grow in cut lumber do so because of certain physical and chemical conditions. Those conditions are identical with the conditions of other life; they must have a certain food supply, a certain water supply, a certain amount of air supply and a certain amount of heat. Given those four conditions, the fungus will grow, and sooner or later cause decay. Now, one of the simplest methods of preventing that decay is to disturb those conditions; either keep the timber thoroughly dry—I would be glad to show you a section of wood which I took some years ago in Switzerland, which had been on a cottage 700 years. In the same way, if you keep it under water it will never rot. The piling of the prehistoric lake dwellers, in Lake Geneva, Switzerland, is just as hard today as it was then; and in the Campanile, which fell down several years ago in Venice, the piling had been continuously under water. An examination of those timbers was made and it was unanimously decided that they would serve the purpose of building a new foundation. So, either keep lumber wholly wet or wholly dry, and it will not decay.

Now, how does that apply to you? There are a thousand and one ways in which Mrs. Brown and Mrs. Jones uses lumber like yellow pine lumber and has it fail, when, if they keep in view certain simple facts it would last and be well adapted for their purpose.

Not very long ago I was walking through the street and I saw a man pulling down his front porch, built of short leaf pine.

The Conditions That Promote Development of Fungi

An Example of Misuse.

The bottom of the posts were thoroughly decayed for at least a foot, or a foot and a half. The heart was perfectly sound, but it was 95 per cent sap. I asked the man to saw off a foot from that rotten piece. He looked at me queerly for a moment, but he sawed it off, and I lugged off this rotten wood. Now, gentlemen, that was a splendid illustration of the unfitness of the lumber material. The man ought not to have used the material in that form. "Yes," you lumber salesmen say, "but if it rots out in a few years, we will sell the fellow another stick." Yes, but the American people are accustomed to buying good stuff for their own buildings, and what is liable to happen is that unless they buy good material, they are going to get tired of the whole business and buy something else. It is not so much the waste, however, as it is disrespect for the material which you are asking the public to use, and the first thing you have got to do is to erase that disrespect by pointing out the elementary facts. Take porches; many of you have seen a porch where the earth or sidewalk bumps right up against it, and it will rot off in two or three years; and then another man who sells cement comes around and tells him, "Yes, I told you that. Our stuff doesn't do that." The same is true for a thousand and one applications. Instead of sticking it down into the soil where the moisture will attack the grain, either creosote the piece on the bottom, or put it up where it has a foundation with good ventilation. I could give you a host of everyday uses. On a larger scale, coming to a rather brand-new field, which I want to call your particular and careful attention to, is the question of the artificial preservation of wood. In the United States, as far as the lumber industry is concerned, that is a brand-new field. Some years ago I was standing in a hotel on the Strand, in London, and asked the porter to wrap up a parcel for me. I found him poring over a pamphlet. I looked over his shoulder and found it was a pamphlet by a creosoting company on the east coast of England advertising creosoted fences, posts for barns and cribs, and so forth. I asked him, "What are you doing?" He said, "We have a little farm up in the country, and my father and I have a little fence to build and I was looking over this catalogue." And I looked over the catalogue and promptly swiped it. That manufacturer was advertising fencing by the yard, including 2 by 4 posts and pickets. How many people in the United States ever heard of such a thing? I warrant, very few. I want to tell you of another instance. A friend of mine in

The Preservative Treatment of Wood

New York City told me the other day, with great glee, that he had just put up a creosoted garage on his place in Tuxedo, New Jersey. I said, "Fine! Where did you get the lumber?" He said, "I bought it in a town in England, 95 miles east of London on the North Sea." I said, "What! You brought it all the way there? What is it made of?" He said, "Yellow pine." I said, "Good heaven? Don't you know there is some yellow pine left in the United States? Do you mean to say that the pine grew in Norway, was taken to London, creosoted, packed, shipped to the seaboard, loaded on a vessel, taken to New York, unloaded and put on a railroad train and taken to New Jersey and put up there?" Yes, and the man was tickled to death with it. Great Scott! Today we have about 150 creosote plants in the United States, and yellow pine growing in the South, and a man from New York orders yellow pine from London. Isn't there something wrong about that? Where were some of you men?

Now, what is true of the creosoted garage is true of many things—fence posts, hog troughs, creosoted wood block paving. How about it? Where can we get it? Gentlemen, ask us. We will tell you. That is what the Southern Pine Association is doing. We have lots of creosoting plants in the United States today, all of them ready to do business. What can we say about it? I am speaking about creosoted lumber particularly. It will last for all time. I was down in Virginia the other day, and a friend showed me a piece of creosoted loblolly pine, put down in 1881, standing there yet. He has structures of various sorts, eighty years old. That material, properly creosoted, is practically indestructible. What is more, it is possible to use a sap grade, a lower grade of lumber, which, under ordinary circumstances, cannot conscientiously be recommended to the trade. As to the details of creosoting, if you will read this valuable paper I have written, you will find out about some of the methods that are employed. This will not tell you very much, but will give you a hint of it. It will put you on the track of asking about other practices, and where and when they should be applied.

The main point I wish to mention in regard to the density rule and treated lumber, is that you have to apply them. What is the use of our sitting in the office and writing papers if somebody doesn't go out and tell the public about it? They don't know it. And the reason why you don't sell more lumber these days, and the

**England
Ahead of
Us in Treating
Lumber**

**Sap Lumber
Good When
Creosoted**

**The Substi-
tute Salesman
on the Job**

concrete man is selling his stuff, is because he is on the job. He makes it his particular business to circulate around. He doesn't make it his business to sell 500 sacks or so a day; he goes around and talks about it on the railroad train and everywhere else. He knows about the questions of strength, and how to make tests. I was on the train the other day and heard a man dilating learnedly about rule B-162 of the American Society for Testing Materials. How many of you know that there is such a thing as rule B-162? A man told me last week, "I wish you would bring this yellow pine material to New York." I would like to take 175 engineers, to talk about this thing. This salesman I was telling you about, my friend on the train, was talking about these specifications. He knew all about the testing machine, how to make briquette tests, how long it should be soaked in water, what the results signify. Where did he get it? He probably heard some engineer talking about strength, and he wrote in to the home office. He didn't know the first thing about it; never heard of it; and he wrote to his office and they sent this pamphlet; and to hear that fellow talk about strength values, *et cetera*, you would think he was the fellow that drew it up. The Southern Pine Association has on its staff a number of men who are devoting much time to digging into these points. If you on the outside hear of some particular problem, don't let it go by. Write it down on a piece of paper and send it in. Let's work together on this. If you see a rotten sidewalk condition, examine it carefully, examine carefully into the condition, why that is the case. If you find some timber is broken, or doesn't serve its purpose, don't let it go by, and say, "Oh, that is simply what Jones sold the fellow. I will sell him something better." Examine the condition and write into the office about it, either to your company, or to the Association, and the first thing you know we will get together on things of that sort, and you will be as implicitly confident of not only the sentimental, but the practical application and value of your material, which will make it a joy for the other man to buy. (Applause.)

**Help the
Association
with Data**

The Chairman: You may be sure that the United States government is seriously interested in the lumber business. They have been making investigations for years along a great number of lines. One of the principal lines of investigation has been the possibility for the utilization of mill waste. Mr. Howard F. Weiss, Director of the Forest Products Laboratory of the United States Forest Service,

located at Madison, Wisconsin, will address you on this subject (Applause).

(Mr. Weiss's paper in full will be found on page 232).

Mr. Weiss: Mr. Chairman: This is a salesman's convention, and I brought my satchel with me (placing a suit case on a chair beside him). I am going to tell you about its contents a little later on. You have been soaking up, for the last two days and nights, information concerning lumber, how to sell pine lumber. It has been committed to me to talk to you on how to make money on material that is not good enough to put into lumber. That reminds me of a story I heard some time ago; doubtless you have heard it—a Southern story. A man asked a colored gentleman if he could change a two-dollar bill. He said, "No, sir, I can't, but I am much obliged for the compliment." I heard a discussion here yesterday on short dimensions, and, believe me, I am going to "duck" how to make money out of red heart and knots and material of that kind. But I am much obliged to your committee for asking me to come here and give you what ideas I have upon this subject.

I think it is not far from the truth to say that about two-thirds of the volume of the standing forests is wasted. We have made some figures of that kind, including the pine belt you are interested in; but in the Douglas fir region and the hard wood of the North, I would say that two-thirds of the volume of the standing forests is wasted, is pretty close to the truth. Now, the fact, of course, is this: That small quantity of lumber has to pay all the cost of stumpage, of taxation, of carrying charges, of operating charges, salary and expense account for you gentlemen. And that is an awful load to ask of one product to carry. Therefore if we can work out from this two-thirds, these tremendous costs, some way that it can be distributed over a larger per cent than thirty-three per cent of the total volume of the output, it is going to make it much easier for you to sell your lumber in the future; because, while I firmly believe, gentlemen, that the price of lumber is going higher and has got to go higher, nevertheless there is a certain level beyond which it cannot go, as these substitute materials will come in and take the market away from you. Lumber still remains a comparatively cheap building material.

Now, when we analyze operating costs, what is the poor owner of timber going to do? In my judgment the most feasible outlet

**A Forest
Service
Expert Talks
on Mill
Waste**

**The Loss
in Lumber
Manufacture**

for him is to get a profit from the two-thirds which now constitute waste. I will now take up about twenty minutes of your time trying to show you what can be done along that line. This problem of utilizing this waste cannot be left to you gentlemen to solve; but before you can sell anything you have got to have something worth selling. You can't go to a man with a carload of knots and slabs and edgings and trimmings and expect to sell that at a fabulous price. The problem is one of tremendous magnitude. To my mind it requires three different types of working: First: Find out what we can do with this material; what you can make out of it. Second: After you have found that out go ahead and make it, as a manufacturing proposition; then after you have made it, the next thing to do is to sell it. I do not hold you responsible for finding the uses of this two-thirds of the product of the forests that is now being burned up or going to rot. The problem will largely be assigned to men like myself, and the manufacturing people throughout the country, and then finally it will be placed in your hands.

**The Hope
for Profits
in Closer
Utilization**

Utilization of waste can be broadly divided into two groups: Mechanical utilization, whereby we simply make wooden products out of waste, and, second, chemical utilization. I have prepared a paper; I don't know whether they are going to print it or not; but in this paper I give you 286 different uses to which Southern Pine waste is now being put—that is, chemical uses—256 different articles that are now being made out of the waste of Southern Yellow Pine. In addition to this, a good many other things like piling, railroad ties, are now being cut of the larger sizes. Now, in regard to the chemical utilization of this waste, I believe it is along this line that the greatest hope lies, that the greatest progress is going to be made. At the present time a most beautiful avenue of outlet is the manufacture of this material into paper. Long leaf pine, in fact any of the Southern pine, makes a splendid grade of the strong brown wrapping paper known to the trade as Kraft paper. Kraft means strength. In the mills of the South they are making paper from pine with more or less success, and now, due to the war price of paper, this paper is selling for \$120 a ton, and they are making pretty good money. We are trying on a number of experiments with this Kraft paper from pine, and have succeeded in a small way in making a paper that is about sixty per cent stronger than even the best Kraft paper now being made by any of these Southern mills; and I hope before Christmas we will

**Utilization—
Chemical and
Mechanical**

**Southern Pine
Makes the
Best of Paper**

have demonstrated these papers on a commercial scale, in co-operation with one of the Southern mills with which we are now working. There is a tremendous opportunity for manufacturers to make Kraft paper from Southern pine waste. Raw pulp is being shipped from Norway by steamer to New York City and hauled by rail to Chicago and then on local freight to Wisconsin and there being manufactured. It grieves me to know that eighty per cent of the wrapping paper used in Brazil and Argentina and other South American countries comes from Germany, and we have the finest material for wrapping paper in the world. I believe this is a great opportunity to convert a large proportion of this waste into this particular product—Kraft wrapping paper.

Turpentine and Rosin

Then there are two other lines, proceeding from the distillation, largely, of stumps—turpentine and rosin. Just before I left I had the pleasure of talking to some Milwaukee capitalists in regard to the operation of two plants in the South for making turpentine and rosin. They told me that even with the very low prices that have been prevailing they have been able to make a good profit on their investment and they are now considering the installation of five more plants, to be erected in the Florida territory.

Possibilities in Ethyl Alcohol

The third product which is now being made commercially from wood waste is ethyl alcohol—grain alcohol. One company that I know of that is doing that successfully is the Du Pont Powder Company at Georgetown, South Carolina. They are turning out this ethyl alcohol which had formerly been dissipated in smoke. And now we are operating with the Foreign Products Company in regard to the Fullerton plant; and you know those very extensive alcohol plants at Fullerton, Indiana, never made any money up to date; but I believe, within a year that plant is going to be put on an operating basis and is going to pay and that we are going to see the installation of quite a number of these grain alcohol plants, not only in the South, but in the northwest territory, up in Idaho, Montana, and the Pacific Northwest. It is a tremendous field for the manufacturer of this ethyl or grain alcohol from this waste. The total chemical utilization of Southern pine waste now amounts to only 250,000 gallons—an insignificant item.

I want to show you a product that is being made from this waste, not only on a laboratory scale, but on a commercial scale; and right here I would like to interject one remark, so that I will not be misunderstood: It is one period of our organization

activities to work out a thing on a laboratory scale, and then we go ahead and show it can be done commercially. The first step, of course, is to work it out in the laboratory, get your data, and then co-operate with some commercial concern that manufactures some similar product on a large scale, and test out the ideas for commercial work. Now, this satchel I have here, except for the corners, is made out of wood. I paid a dollar for it. Before the war I bought it for fifty cents. Since the war the price of all paper products has gone up tremendously.

**How the
Forest Serv-
ice Experts
Work**

A product you are very familiar with, no doubt, is wall board. I have several different kinds of wall board that can be made from wood waste. Here is one that is extraordinarily light—lighter than cork. That is being used extensively. Here is a board that is much heavier—very strong and stiff. There is a wall board made from wood waste, absolutely fireproof. This particular product goes largely into the construction of sailing vessels, because of its lightness and fire resistance. It is used in building ceilings and partitions of sailing vessels.

**Wall Board
Made of
Wood**

Here is a new use of wall board which is coming into rather extensive use—making blackboards out of this wall board. It is nothing but wood, ground up fine, run over a machine and pressed into a board, and then covered with a light crushed stone, which is rolled in. And they make this in dull green, which is claimed to have a more soothing effect on the eyes of the school children than black. It is being used quite extensively.

To show you the extent to which some of the manufacturers of these products go, I show you this, which you readily recognize, and which is being distributed to a lot of the hotels in the United States, to hang up your coat in the hotel, and really is meeting with quite a favorable reception.

Now, here is some of this class of wrapping paper that we made ourselves from long leaf pine. This particular quality I have here is considerably stronger than the best grade of wrapping paper that is now being made in the United States, and compares very favorably with the best grade of wrapping paper made in the world.

Here is twine made out of one hundred per cent wood. This twine is now being experimented with by your Association for tying up lath and other products, in place of sisal twine which, as you know, comes from Mexico. If we can make out of this

**Twine Made
from Wood
Waste**

Southern pine waste a twine which would replace sisal, there is enough business in that line alone to keep thirty good sized mills running day and night throughout the year. That is only one article that could be substituted for the twine, the raw material of which now comes entirely from Mexico.

Here is another product, a pine product, which has been used for wrapping wool. That is one hundred per cent wood. Ninety per cent of the wool that is now being rolled west of the Mississippi is baled with twine made absolutely from wood.

Then we are making rope. This particular piece of log-line was trailed through the seas for eight thousand miles. Here is a rope made entirely—I believe it is sash cord—instead of being made from cotton, this has been made out of wood.

Here is a different kind of pine product—woven. We have been commercially showing girls how to make baskets and other household articles, rather artistically.

**A Variety of
Novel Uses
for Wood
Waste**

Here is another product made entirely out of wood. The idea is to fill that up with milk and after using it you can throw the bottle away. The glass milk bottle is a very big item to the man who wants to get away from it.

There is a sausage. The casing is made entirely out of wood—100 per cent wood.

Here is a brand new product that has only been on the market about a year. It does not look much like wood, does it? That product is being made to take the place of celluloid in the manufacture of photographic films; also to wrap up candy. Very interesting. All wood.

There is another product—that is all wood, from here to here (a stocking). Here is cotton, and here is cotton, and here is cotton, but the rest is all wood. It is what is known as artificial silk. Maybe some of you have them on now. They are a good article.

Here is a silk cloth, made of two different kinds of wood—100 per cent wood.

A Voice: Where is that manufactured?

Mr. Weiss: Pennsylvania.

A Voice: What kind of wood is the sock made of?

Mr. Weiss: Made out of any kind of wood, but they are using mostly hemlock and spruce, because most of those plants are up in the north.

A Voice: Will that stocking turn yellow?

Mr. Weiss: No.

I have a product here that is not made in the United States, but I won't show it to you because all of you have heard about the British blockade to starve out the Germans in connection with making gun cotton. According to the newspapers all the British ever had to do was to keep Germany from getting American cotton and after a while they would run out of ammunition. That is all poppy-cock. The Germans got busy with their wonderful skill and appreciation of organized industrial effort, and where did they go for a substitute for cotton? They went to the forests, the very product we are all interested in; and cotton is now being made by the Germans out of the spruce and pine of the forests that grow in the southern part of Germany. That product is no joke, not only in making gun cotton, but also in bandaging the wounds of the soldiers.

**Wood a
Substitute
for Cotton**

Here is another product which is made in Norway. Now, unfortunately, most of these things are made abroad, and it will be exceedingly difficult for us to get any information regarding them, not only on account of the war, but because the concerns that are making these things are keeping it just as secret as they can.

Here is a sack 100 per cent wood. That bag is coming into this country. It is, I am glad to say, an American product. They are shipping ore from Chili into this country now in bags made out of this material.

Here is a sack, a Norwegian product, 100 per cent wood—made in Norway. A very strong, tough, durable mesh.

Here is an American product—a coffee bag, a good deal like that bag there, only you notice it has been washed or treated to close up the mesh, so that it is absolutely impervious to air, so that the aroma of the coffee will not escape. That is all wood.

A Voice: What is the comparative cost?

Mr. Weiss: It is about the same, because we don't lower the price; don't have to.

Here is another product. This is a piece of linoleum made out of wood fiber and boiled linseed oil. Wood fiber is rolled between steel plates and then oiled with linseed oil.

**Rugs and
Linoleum
from Wood
Fiber**

We have here another American product; it is a cloth made out of maple. It is already in use. Marshall Field & Company

told me that they tested the material before they sold it, as they want to have confidence in their goods. They told me it cost about half as much to get a good sized rug out of this material. Long leaf pine will make a wonderful quality of fiber rug. (Applause.)

A Voice: What do you call that?

Mr. Weiss: We call it sylome.

Now, with these in mind, I have written down a few suggestions which I am very glad to offer you for what they are worth; and I tried to make these suggestions so that they will reduce to a minimum the expense of the manufacture of lumber. In the first place I believe that there will be a much closer and real co-operation between the lumber manufacturer, the lumber salesman and various technical organizations throughout the United States. We ought to be on a better working basis. I was astonished, when I was appointed and took charge of the work at the Madison plant, by the tremendous variety of the products that can be made from wood; and they are running into new ones all the time. We had several of the gentlemen from the Yellow Pine Association at our place the other day and we fed them on biscuit made of baking powder made from pine from Australia. I believe we need this closer co-operation. We have simply got to work in co-operation with industrial concerns. I want to call your attention to a few things that our own organization has done to help out the cause of lumber. As you know, there has been a tremendous dye shortage in this country, and we discovered that a little tree known as the osage orange, which grows largely in Oklahoma, contained a yellow dye, which on test we found compared very favorably with the dye obtained from Mexico. We took this up with two of the large extract houses in the East, and they are now extracting from this wood \$800,000 worth of dye.

We have men at Atlantic City now working with the American Society for Testing Materials and drafting new specifications for wooden boxes, to co-operate with the National Box Manufacturing Association. Now, here is an interesting thing that has been brought to light. Instead of putting five nails on the end of the box, if we put in seven nails—two more nails—we figure we increase the strength of the box 300 per cent—that little simple innovation. There has been a redraft of specifications for two types of boxes, number three canned goods, and an iron-

**Co-Operation
in Extending
the Uses
of Wood**

**New Speci-
fications for
Wooden
Boxes**

bound box, and those are now being considered by the society, and there will be incorporated in the rules of the Interstate Commerce Commission these specifications, the idea being to decrease this loss of thirty or forty millions a year which the railroads claim they have to pay because of the inadequate boxing of goods.

My second suggestion, that I would like to see worked out, is that the manufacturers of lumber ought to co-operate more closely with the manufacturers of wood working machinery. The great problem in trying to use wood waste in the manufacture of these mechanical products is that there is too much handling. You have got to handle it piece by piece. You have got to get away from that. It has to be done mechanically. Three years ago at Port Arthur, Texas, cans were made out of sheet tin. The sheet tin went in as tin at one end and came out cans at the other end, labeled. We have got to work out something of that kind, to work out the utilization of wood. And I know the wood machinery concerns would be glad to have much closer co-operation from lumber men than they are now getting, to try to perfect their machinery. A few days ago I was in a large plant where they had developed a new type of planing machine. This machine occupied much less space in the room and the boards went through in much less time, and the beauty of it is, they were absolutely smooth. There is a tremendous amount of work to be done along that line, and I believe if you manufacturers would co-operate more with these wood working concerns, it would increase the chances of wood utilization in the manufacture of good articles.

**Too Much
Handling
in Lumber
Manufacture**

A third point that occurred to me is that very few salesmen know just how boards are actually used in these wood working factories. The reason that you don't is that you haven't gone into the wood working factories and seen how the boards are cut up into various products. If you have, you are the exception. I have found very few salesmen in my experience who have ever gone into a wood working factory and seen how the boards are cut up, and they can't believe that the average length of a board in use is about four feet—not twelve or sixteen feet; but taking the average, the used length is about four feet, as near as we can estimate it.

**Salesmen
Should Study
Factory Uses
of Lumber**

The Forest Service has established in Washington, D. C., what is called the Woodworking Exchange. The idea is to get all of the people who utilize waste on the one hand, and all the people who have waste to sell on the other hand, and try to get them together to the commercial advantage of both. I believe that a similar activity on the part of the various lumber associations would result in great good. In spite of the fact that we have perfected the methods of manufacturing lumber, I have seen thousands of feet of lumber absolutely destroyed, due to imperfect or improper manufacture. Those things can be overcome by a more careful manufacturing of lumber. (Applause.)

Another point: A uniform cost keeping system is very essential. We have here an analysis of the cost of manufacturing lumber. I don't know on what it is based. But we have gone into some mills and made what we call analyses. For example, on a hand saw we put a stop on the thing and found out how long it would take to make lumber out of a log, and then on another log. To make a long story short, it costs about one-half to one-third as much to saw lumber from a big log as it does a little log—I mean, actual milling cost; and that is something that is seen throughout all woodworking operations. The paper fellows can make paper out of logs four inches in diameter, and you would have the dickens of a time sawing lumber out of that stuff; and you can make money out of big logs. Now, if we can get the unit cost of operation in these various systems of operation, we can utilize lumber that is now being absolutely lost.

The last suggestion is that you ought to patronize home industry. Take the question of the wooden bags. You ought to encourage the use of wooden bags wherever you can. You ought to buy artificial silk socks whenever you get the chance. You ought to use this paper and string wherever you get the chance. They are good products; they are all genuine articles. They are going to do a whole lot for these industries throughout the United States that are struggling right now.

Now, gentlemen, in conclusion, you will note that all through this paper the keynote of my remarks centers around one word, and that is "Co-operation." I believe there are enough organizations in existence and if we can get together and work to a common point, there will result a tremendous gain. But we must have co-operation. It is only savages and barbarians that don't

The Govern-
ment's Wood-
working
Exchange

Study of
Cost-Keeping
Systems

Co-Operation
the Keynote

co-operate, and therefore I strongly believe in association activity. These things are too extensive, and these things are too complicated to work out individually, each man for himself. And I would like to see the Southern Pine Association continue to expand, and to extend its energies in co-operation as it has in the last few years, and I believe we are going to help put lumber through the difficulties it is going to have in trying to get on its feet, and to compel the public to show a respect for wood, which I am sorry to say is not in evidence at this time. (Applause.)

The Chairman: Gentlemen, we have just two more addresses on the program this morning. As I mentioned when we opened this meeting, we are going to endeavor to throw practically all of the time this afternoon to discussion of questions. I wish to ask that you all remain for the balance of the program this morning, because we have one man who is going to handle a very important topic, that is, advertising; and another, General Boyle, who has a message to give you from the legal department of the Southern Pine Association, and also a message to you as a salesman. It is my very great pleasure now to introduce to you Mr. Hugh McVey, business manager of "Successful Farming." Mr. McVey's magazine is one of the largest farm magazines in this country, a magazine which has carried a great deal of Southern Pine advertising, and I can say it has given us very good results. Mr. McVey. (Applause.)

**Introducing
Mr. McVey**

(Mr. McVey's speech will be found on page 253).

The Chairman: Gentlemen, in response to many urgent telegrams General Boyle has been able to arrange his engagements so as to be with us today. I don't think that I can say anything that would give you any measureable idea of the ability or earnestness of Mr. Boyle or of the importance of the work that he is endeavoring to do for the yellow pine industry. I will simply introduce General Boyle to you as the special counsel of the Southern Pine Association, now interested in matters being laid before the Federal Trade Commission. General Boyle! (Applause.)

**Introducing
General
Boyle**

(Mr. Boyle's address will be found on page 347).

The Chairman: Please be prompt this afternoon. We want to go into the discussion very thoroughly. We will stand adjourned until 2 o'clock.

At this point at 12:30 o'clock p. m., the school took a recess until 2 o'clock p. m. of the same day.

WEDNESDAY, JUNE 28TH, 1916—AFTERNOON SESSION.

At 2 o'clock p. m. the meeting was called to order by Mr. Harry T. Kendall, chairman.

The Chairman: It is going to be necessary, gentlemen, for Dr. von Schrenk and Mr. Sterling to leave the meeting early today to fill some engagements they have. I am going to ask Dr. von Schrenk to read a few of the questions he has, and answer them. Mr. Sterling has only one question that has been referred to him. Now, in case any other questions occur to you, gentlemen, that we might properly ask either Dr. von Schrenk or Mr. Sterling, I wish you would present them. Dr. von Schrenk!

Dr. von Schrenk: The question is asked: "Is the strength of pine lumber affected, when tapped for turpentine?"

The answer to that is, that it is not. Turpentine or rosin in a pine tree is an excreted product. In other words, it is a product that is formed by the pine tree as a result of the growth, which the pine tree, so to speak, wants to get rid of. It is produced in resin canals, and when the tapping operation takes place the only rosin or turpentine which flows from the tree comes out of the sap wood. No turpentine ever forms from heart wood. So the presence or absence of turpentine in the timber has no significance as far as its strength is concerned. That has been demonstrated very thoroughly by a great many tests which were made years ago by the United States Forest Service, and has since that time been substantiated time and again.

"Does creosoted silo stock cause the ensilage to become poisonous and injurious to the stock?"

It does not. Practically all authorities on ensilage deal very thoroughly with that particular phase. A great many creosoted silos have been used in various parts of the country and the cattle seem to take the ensilage right close up to the creosoted side, just as readily as from the center itself.

"How long will a heart-sawn pine shingle last?"

That depends. It will last anywhere from two to forty years, depending upon the conditions in which it is placed, the character of sawing, the amount of rainfall in a particular region. It is practically impossible to give that a definite or specific answer. Under ordinary circumstances I should say, ten or twelve years would be a very fair estimate; but that should not preclude its lasting very much longer, or very much shorter.

**Turpentine
Does Not
Weaken
Wood**

**Creosoted
Silos Do
Not Injure
Feed**

**The Life of
a Heart Pine
Shingle**

"Is the growth of a tree from the outside alone? If so, what turns the coarse-grained sapling into a close-grained virgin tree?"

The growth of a tree is always upon the outside; that is, it takes place between the very inner portion of bark and the wood. Now, the rate of growth of practically all of the pines is determined by two factors: First, there is a certain periodicity, which is annual; and in the second place, by soil conditions, and by the two factors of the amount of annual rainfall and the wind velocity. A pine sapling usually starts under conditions where there is plenty of light, the trees not shading each other, and where they are not subject to the wind stresses. They usually have plenty of rainfall and the result is they generally make, in periods from seven to seventeen years, a rather rapid rate of growth. Then, almost invariably, irrespective of moisture conditions or other factors, they will start to slow down; and particularly where they grow close, with other trees close to them, they tend to develop a crown high up in the air; and the result is the growth will slow down and for the next twenty, thirty or forty years or more the growth per year will be very small, and consequently will make very fine rings on the tree. That is not always the case. The exceptions are, trees in an open field, old field pine, or rosemary, which will make very rapid growth for forty or fifty years, due to the fact that they have no competition for light and air.

**The Tree
Grows on
the Outside**

"What is the meaning of a specification which reads, 'All timber used must be long leaf yellow pine or Douglas fir, conforming to the standard heart specification'?"

That is a specification which I recognize is found very frequently in both architectural and engineering contracts. If I should interpret that I would say that the standard heart specification refers to the standard adopted by some national technical organization. The only two that really have adopted any standard heart specification are the American Railway Engineering Association, and the American Society for Testing Materials, and they usually mean 70 to 85 per cent heart, depending upon the class of timber to be used. In other words, they will allow a higher percentage of sap in struts than they will in stringers and caps, but will even require 85 to 95 per cent heart.

**The "Standard
Heart" Spec-
ifications**

The Chairman: Are there any questions you wish to ask the doctor before he leaves the platform?

Mr. Christy: Is creosoted lumber for silos less liable to shrink or warp?

Dr. von Schrenk: Yes, it is, on account of the fact that every pound of creosote that is injected into the timber increases its water-proofing power. A small amount would increase it only to a certain extent. A larger amount, like fifteen or eighteen pounds of creosote, would water-proof it very much more, and that of course would reduce its tendency to warp or shrink, to that extent.

The Chairman: May I ask a question, Doctor? Does the treatment of yellow pine or any other wood for silo purposes injure the ensilage?

Dr. von Schrenk: No, it does not. I think I answered that fully.

Mr. Hervey: What is the comparative strength of fir and long leaf yellow pine?

Dr. von Schrenk: In general it might be said that grade for grade it is six of one, and half a dozen to the other. There has been a good deal of discussion, through misinterpretation of strength figures for yellow pine and Douglas fir. Some yellow pine man will start out and say that yellow pine is stronger than fir; and the fir man comes back and says, "You are another. Fir is stronger than yellow pine." Now, the safe course to be taken—perhaps I can explain that in a very few words—all timber varies in strength according to a well known mathematical formula. For instance, long leaf yellow pine might have a modulus of rupture, one of the strength factors, running from seven to fourteen thousand pounds. If you test a sufficiently large number of pieces of pine you will find the strength all the way in between, but you will find a great majority of them will be somewhere in the middle—ten or eleven thousand pounds—taking those not as absolute figures, but simply as an illustration. It will do the same thing with Douglas fir, and you will find almost the same kind of curve, or the same kind of distribution of strength. Consequently it is easy enough for anybody to pick up a piece of yellow pine and say it is very much stronger than a piece of Douglas fir, and vice versa. But if you have the two together, practically graded under the new density rule, you will

Creosoted
Lumber Less
Liable to
Shrink

Comparative
Strength
of Fir and
Yellow Pine

find you will be perfectly safe in a statement that grade for grade the high grade piece of yellow pine will be just as strong as the high grade piece of Douglas fir, and the high grade piece of Douglas fir will be just as strong as the high grade piece of yellow pine.

Mr. Woodhead: I would like to know what grade of Douglas fir corresponds to 90 per cent heart long leaf?

Dr. von Schrenk: I don't think there is any such grade.

Mr. Woodhead: No; I don't think there is.

Dr. von Schrenk: There is no such grade at all on account of the fact that the rules under which fir has been sold have been so different from those of pine. The Douglas fir manufacturers will hold a meeting in Seattle, under the auspices of our committee, a month from now, and they are now formulating a set of rules which will be practically identical with those recently adopted by the Southern Pine Association, which will very accurately define that grade.

**Douglas Fir
to Have
Density Rules**

Mr. Woodhead: They haven't any at the present time?

Dr. von Schrenk: No, not that I know of.

Mr. Gray: What is the average price per thousand feet of creosoting lumber?

Dr. von Schrenk: That will vary very much, according to the amount of oil that is injected per cubic foot. The price of creosoting is determined by the method of operating and the amount of preservative. Taking an average standard, say fifteen pounds of creosote per cubic foot, and an average plant, you can figure it will cost from \$13 to \$20 per thousand, depending upon the initial cost of oil. If you use one of the economical practices it may run down as low as \$8 per thousand.

**Cost of
Creosoting
Lumber**

The Chairman: Any other questions, gentlemen?

Mr. Woodhead: I would like to make a little explanation in regard to the standard heart specifications. Several of the gentlemen here have asked me to speak in regard to it, and I want to say, for the information of those gentlemen and perhaps others, that in Texas and Louisiana for many years there was a standard specification of long leaf timber called standard heart, and it had a specific application as to what it was. It admitted of an inch of sap on two corners the full length of the piece or an inch and a half of sap on one corner the full length. That was called standard heart and was used by those mills in Louis-

**"Standard
Heart" in
the South**

iana and Texas, oh, I suppose, for twenty years, and there are many there today that will ship you timber on that specification without asking a question about it. Of course, I understand that under the new rules and specifications we are working under that that is now an obsolete specification; but that was a standard specification down there for many years.

Dr. von Schrenk: You are entirely correct in that; and so far from being obsolete, it may be obsolete with the mills, but it certainly is not obsolete with the engineering concerns.

Mr. Woodhead: I judged from your remarks it was, but I don't know of my own knowledge.

Dr. von Schrenk: No. You remember, I tried at least to specifically except the two rules made by the American Railway Engineering Association and the American Society for Testing Material. For instance, the standard grade for the American Railway Engineering Society, I believe the term is standard heart grade, after specifying dense and sound pine, which of course does not relate to the grade, then they have a grade, standard heart grade, which means 85 per cent heart and defines how the sap shall be—the inches on corners; or 75 per cent for posts and struts. The term is actually in use today, and more and more railways every day are adopting it.

The Chairman: Any other questions, gentlemen?

Mr. Ash: Now, on the question of this specification which was read, where it said long leaf yellow pine standard heart; where it read, Douglas fir or long leaf yellow pine—I think that is the way the question read: Now, then, would a salesman understand that those standard heart specifications would have to apply to Douglas fir? I think that was the object of the question. And if they do, what did the architect mean when he wrote that?

Dr. von Schrenk: The reason why those two woods have probably been coupled together in that standard heart grade is that the two technical bodies I spoke of made no distinction in their use for stringers, caps, sills, struts and girders between long leaf yellow pine and Douglas fir, because of the equality in strength. They said, for instance, at the head of the specification for stringers, "May be either long leaf pine or Douglas fir," and then the next paragraph will give two grades; one is called, I believe, standard heart grade, and the other is called standard

**A Railway
"Heart"
Specification**

**Douglas Fir
and Long Leaf
Pine on an
Equal Basis**

grade; but the standard heart grade makes distinct specification as to the heart and sap which apply equally to Douglas fir or long leaf yellow pine. A man, in other words, may furnish either, according to the option of the engineer who calls for the requisition.

Mr. Ash: Then there is a standard grade covering Douglas fir?

Dr. von Schrenk: There is a standard grade covering Douglas fir, as far as the engineering bodies are concerned; but the Douglas fir people never accepted that, and that is what is creating a great deal of discussion at the present time, and caused their recent action, because so much of the Douglas fir was being objected to for that reason.

Mr. Moss: I would like to ask the Doctor, what is the relative strength of long and short leaf dimension, and if there is any real basis for the prejudice which exists in some sections of the country against the use of short leaf pine?

Dr. von Schrenk: Well, that is a pretty hard question to answer, because the two overlap. The chances are going to be that the long leaf dimension is going to exceed in strength, when you take it as a whole, short leaf dimension; because the mere fact that this new designation does not necessarily change the strength value of the botanical species, as a general rule it means, cut from long leaf pine, whether it be stringers, or two-by-fours, or whatever the character of the product may be. It will, as an average, be stronger than those either of short leaf or of loblolly.

The Chairman: Any other discussion, gentlemen? Mr. Sterling is here, and Mr. Sterling has one question which has been referred to him. He is going to answer it, and if any of you have any other questions you would like to put to Mr. Sterling while he is on the platform we would be very glad to have you do so.

Mr. Sterling: As a matter of fact, there are several questions here, but I am not going to tackle them all.

"Question: What are the chief talking points on wood when in competition with"—and then there are several kinds of material.

Metal lath. I should say that metal lath is getting into a competitive class where they are not in all cases very well prepared to urge its merits in competition with wooden lath. The greatest drawback to metal lath which I know of personally is

**Long Leaf
and
Short Leaf
Dimension**

**The Talking
Points of
Wood in
Competition
with
Substitutes**

when used on the outside for structural purposes that it rusts. I had occasion last winter to look at a lot of engineering records on the use of metal lath back of stucco or plaster, and they found it lasts all the way from eighteen months up to nine years, but in most cases it failed from rust within a very short period, making it impracticable.

Another one on the list here is metal ceiling and lining. It seems to me that there are two or three very good arguments for wood in competition with metal ceiling. One is, there is nothing uglier in the world than this metal ceiling. Another is that even for cheap and temporary construction you can ship one-inch stocks, if they want character or quality in a room.

Paper roofing is also on this list. Paper roofing is being used for some purposes. If you have a shed with a flat roof you would probably put paper roofing on it. If you had a roof of a house where you wanted beauty and economy and non-conductivity of heat you would put on a shingle roof. That question of paper roofing is one which we must decide according to the facts and the conditions.

I just want to draw a couple of conclusions from this, if I may?

The Chairman: Certainly.

Mr. Sterling: One is, that on a lot of questions of this kind, I don't think the lumber industry as a whole is in very good shape to answer, in the same way that our competitors would answer them, because lumber has not been considered a material which needed research. Our competitors probably know more about our material because they have delved into it. Now, we salesmen have got to delve into these other questions and know absolutely why a certain material is better, or why it is not better. That is all, I think.

The Chairman: Any questions you wish to ask?

Mr. Williamson: As a general rule, I would like to know the life of the three kinds of lumber that is most generally used by railroads in this country—fir, spruce and long leaf pine; which has the longest life?

Mr. Sterling: That is a matter of conditions, largely. Under conditions favorable to decay, why heart spruce would probably have the longest life; but, as I say, it is all a matter of place and time and use.

The Chairman: Any other questions, gentlemen?

Mr. Lennox: If the speakers in answering those questions will stand straight, instead of sideways, we could hear them much better.

The Chairman: Gentlemen, we have a very short formal program for this afternoon, and we will proceed with that and then the meeting will be thrown open for general discussion. We have a great number of questions, we will be glad to consider all of them, and we will stay here all night, if you will stay with us. I want to introduce to you a man who is only 85 per cent efficient. He has got a very lengthy paper, but after discovering he was only 85 per cent efficient, the committee persuaded him to have the speech put in the printed record and to give you a short talk on his subject. I am glad to introduce to you Mr. Ben S. Woodhead, our very amiable subject of yesterday afternoon. (Applause.)

(Mr. Woodhead's paper in full will be found on page 262).

The Chairman: We feel exceedingly complimented in being able to place the next speaker on the program. I believe that it is entirely unnecessary for me to attempt to introduce him. He is one of the outstanding figures in the lumber world, and he enjoys a reputation not common among lumber men—a national reputation outside of the lumber industry. I am very glad to introduce you to Capt. J. B. White, president of the Missouri Lumber and Land Exchange, of Kansas City. (Applause.)

**Introducing
Capt. J. B.
White**

(Captain White's speech in full will be found on page 340).

The Chairman: Gentlemen, the meeting will now be opened to the discussion of questions of new business that may be presented to the meeting. And as we have so many questions, something over 140 or 150, some of which no one in the audience or on the committee would attempt to answer on short notice, I am going to throw the meeting open and let the questions be asked and discussed generally—Mr. Snell, have you something that you wish to bring up?

**The General
Discussion
Begins**

Mr. Snell: Gentlemen: Something which I desire to bring before this meeting today is a subject which has already been inserted into the meeting twice—once this morning by General Boyle, and this afternoon by Captain White. This is the subject of the transit car movement. Now, the transportation committee

**As to Transit
Car Shipments**

of the Southern Pine Association has this matter in hand, and is discussing it and is looking for light. From the expressions that I have heard here this morning, I would naturally conclude that all of the people here have decided that there was only one side to this question. But there are more sides. Before I came here today I had analyzed the question into four sides. There is the manufacturer's side, there is the consumer's side, there is the carrier's side, and there is the wholesaler's side—that is four. But since I have come here today, I have decided that there is a fifth side, and that is the salesman's side.

Now, the object of the Southern Pine Association, its emblem and its motto is Service. Service does not mean good for me, or good for you, but it means the greatest good to the greatest number, all over this country of ours.

Now, this question of the shipment of lumber primarily for reconsignment, that is the shipping of lumber before it is sold, is the question. The transportation committee, some of them, a short time ago, were of the opinion that it was a subject that couldn't be touched by the Association, but I think they have seen the light, and I believe the transportation committee at this time is unanimously of the opinion that it would be beneficial to the lumber interests of this country to do away with the transit car shipment. And it is the intention of the Association to take up this question, and when it is decided that it is for the greatest good of the greatest number of people in the nation, that we won't have any more of this transit car proposition. Then the Association will make itself its brother's keeper, and we are going to look after the members of the Association who, Captain White says, put this lumber in transit. And I would like to hear a discussion upon it simply to get light on it. I would like to find out how the salesmen here who meet the trade, think of it and hear them tell what effect it has upon their business; and what the general consumer or buyer of lumber thinks of the transit car proposition.

The Chairman: Gentlemen, you have heard the statement of Mr. Snell. I would be glad to have any of you discuss it. (Pauses for several moments.) From the energetic applause we heard this morning and again this afternoon I thought that subject was very near your hearts—Mr. Heyl.

Mr. Heyl: I was in Iowa about a month ago and a lumber dealer in that town had asked me for a price on some stuff which he

wanted; and he said, "Well, I have not opened up my mail yet. I have got a lot of transit cars there. Let's open it up and see what those fellows have done." He opened his mail and in that morning's mail there were 469 transit cars, most of them B stock. But there was enough to stock a dozen lumber yards; and there were five concerns listing 469 cars, and all of them at prices anywhere from two dollars to three dollars less than I had on my list. I didn't sell him the B stock.

A Voice: Who were the shippers?

Mr. Heyl: Who were the shippers? Do you want to know?

The Chairman: No, I think not.

A Voice: Let's have it. Come on!

The Chairman: No. We will discuss this proposition only from a general standpoint.

Mr. Houston: I believe that it is the opinion of 98 per cent of the retailers that it hurts their business as much as it does the wholesaler—that is, the manufacturer; and that they would like to see the transit shipments done away with equally as well as the manufacturer. As far as the effect is concerned, there is no question but that the transit shipment puts the legitimate salesman out of business (Applause).

Mr. Marshall: Mr. Chairman, I believe that this transit car business has always been a source of one of the greatest annoyances that the salesman has met; but it has been worse in the last six months than we have ever encountered before, and seemingly partly due to the avarice of the manufacturer. Last fall we knew that the advances were natural and normal, but when prices were continued to be advanced after the natural causes were removed, then it was that the dealer turned to something that they could buy cheaper than the prices that we were asking for the lumber. They evidently weren't able to keep the pace, and they turned to these lower priced cars and the result was, a great many more cars were placed in transit. As far as the attitude of the customer is concerned, a great many of them are glad to do it, they think that the stock is about as good as anybody else's stock, and that difference of two or three dollars, when the stock is such that they could use, has been a very strong influence with the everyday buyer of lumber.

Mr. Lacy: There is a very prominent retail dealer here in this audience. We would like to hear what he has to say.

**One Day's
List of Tran-
sit Cars**

**A Majority
of Dealers
Against Tran-
sit Shipments**

**A Question
for the
Commission**

Mr. Nelson: I think we are wasting our breath over this matter, because it is a matter for the commission to answer, and it doesn't make any difference what we say here; it doesn't make any difference to the commission.

The Chairman: You understand the reason it was brought up? Mr. Snell wanted to know what the salesmen thought of the proposition.

Mr. Nelson: I think the noise they made this morning is sufficient to show how they feel about it. (Laughter.)

Mr. Seidel: I want to say, from the standpoint of a retailer in a big city, that I know you can't make any money out of transit cars. The men that sell in St. Louis and sell to me know that I have always been against the buying of transit cars. I like to get what I buy, and I buy in time enough to get the stuff from the mill. There are times like there were last fall when you get caught up occasionally and need some cars, and then I buy under protest. I want to say that the thing that Captain White brought out, if you can control that, you would never have to worry about your transit cars. Ordinarily speaking, I would say I can't make any money on transit car shipment. We have our troubles in cutting, even from the best of the concerns which are in thorough organization. We have rejections out of those cars, in spite of all we can do; and really I don't like to have a mill invest our surplus account or our treasury account in stuff they ship, instead of letting me decide that question. I put my money in stuff that I want. For that reason I can't use any transit cars, and our company buys very few. I don't think that we buy ten transit cars in a year (applause).

Mr. Willhite: I think, in protection to the salesman, when the operators get their stock in such shape that they can give immediate service to the salesmen it will be one of the most vital points against the transit car that can be made.

The Chairman: Gentlemen, is there any other discussion? I think Mr. Weiss is still in the audience; if any of you have any questions you desire to ask him about the paper he read this morning or the line of thought he brought out, I am sure he would be glad to answer you—gentlemen, here is a question to start you on: "What does it cost to re-saw lumber?"

Mr. Boykin: It costs forty-six cents to re-saw; forty-six cents per thousand feet.

**Mr. Seidel
Gives an
Opinion**

**The Cost
of Resawing
Lumber**

The Chairman: That figure includes only the mechanical operation?

Mr. Boykin: That just includes the mechanical operation. I cover so many subjects in my paper here you will have to give me time to look over this paper (examining the paper). The cost of re-sawing is thirty-seven cents. The re-sawing of any grade of lumber, with the exception of B and better, unless the stock is well manufactured degrades the material; and that is especially so for number 2 and number 3 re-saw. Furthermore, you encourage the accumulation of waste, which will amount to at least 25%.

The Chairman: Is Mr. Jones in the audience—Chief Inspector Jones?

A Voice: Yes.

The Chairman: There are some questions here that have been referred to you. If you will come up, we will be glad to give them to you. Here is a question I would like Mr. Nelson to answer: "Why is flooring standard matched?"

**Why Flooring
Is Standard
Matched**

Mr. Nelson: It is standard matched by request of the consumer. The fact that lumber expands and contracts to the extent of moisture that is absorbed in it causes—it is not uniform. It may shrink more on one face than on the other; and if it is matched square jointed, it is liable to swell more on the back side of the flooring, so that when you lay it and try to match it up it leaves an opening on the face side; but if it is cut bevelled it enables the carpenter to lay it up close; no matter how much it should expand on the back side.

The Chairman: Mr. Jones, the chief inspector of the Association, was to read a paper on the density rule he has prepared. It is a very elaborate paper and will be printed in the record. Unfortunately, we are pressed so much for time we won't have an opportunity of hearing that paper. But if any of you want to ask him any questions on the density rule or on the grading rules as they now stand, he will be very glad to answer them.

(Mr. Jones's paper will be found on page 334).

Mr. Landon: In case of a piece of dimension say sixteen feet long, that has a defect towards the end, would that be remedied by cutting off two feet?

Mr. Jones: You mean, in case of an inspection?

Mr. Landon: Yes.

Mr. Jones: In case of inspection for the adjustment of a claim, the inspector is required to handle the stock just as he finds it. He has no authority whatever to deduct, or cut back and raise the grade. That is a penalty that is attached to the mill for shipping lumber that is not properly manufactured—now, while I am here I will answer these other questions. One question is, “What is the most serious objections to kiln-drying number 2 common?” My experience has been that in kiln-drying number 2 common it will degrade say 40% on account of shakes that open up and knots that fall out. There are knots that will retain their place in the piece for all practical purposes if it is air-dried, but if it is kiln-dried they fall out and reduce the grade to a number 3 or number 4 common as the case may be.

The next question is, “Why is B and better partition worth at least two dollars per thousand more than flooring?” In manufacturing flooring they only grade one side. They may center match it, or they may standard match it, but they grade only one side. The reverse side may be two or three grades lower, in fact, as they don’t pay a great deal of attention to the reverse side of flooring; but in manufacturing partition the reverse side must not be more than one grade lower. For that reason B and better partition is worth at least two dollars more than flooring.

“Why is grooved roofing worth more than shiplap at the mill?” It is a better grade than shiplap. It doesn’t allow any splits; it doesn’t allow any pith knots or worm holes. It is practically a water-tight board, which a number 1 common board or shiplap is not. Number 1 shiplap will admit pith knots or it will admit a split equal in length to the width of the piece at any point in the piece. It will admit seasoning checks that go through or show an opening through, and grooved roofing will not.

The Chairman: Are there any other questions you would like to ask Mr. Jones, either on the density rule or any other feature of the grading rules, or the inspection work of the Association, or anything of that character?

Mr. Austin: What percentage of shipment of a mill working strictly long leaf or cutting strictly long leaf will comply with the density rule?

Mr. Jones: Well, that is a question that has never been figured out, that I know of; but just making a rough estimate of it I

**Inspectors
Handle Stock
as They
Find It**

**Difference in
Value of
Partition and
Flooring**

**Grooved
Roofing
Worth More
Than Shiplap**

would say that the average long leaf timber, at least 90% of it would comply with the density rule. That may be over-estimating it, but I hardly think so. There may be some sections of long leaf yellow pine timber where no more than 50% of it would meet the requirements of the density rule; but I think, taking it as a whole, that at least 90% of it will entirely meet the requirements of the density rule.

**Average
Timber and
the Density
Rule**

The Chairman: Any other questions, gentlemen?

Mr. Franke: The grading rules say that B and better finish will admit of slight or minor seasoning checks. What is meant by slight or minor?

Mr. Jones: Small checks.

Mr. Franke: How small?

Mr. Jones: Seasoning checks going through the board are not admitted in B and better finish. Now, on the question of small seasoning checks, or the size of the seasoning check, it is generally understood among the inspection force that seasoning checks that have very little, if any, openings and are eight to ten inches long, are considered small seasoning checks provided there are not too many of them.

**The Meaning
of "Small"
Seasoning
Checks**

The number of seasoning checks in connection with the other defects would have to govern in those cases.

Mr. Franke: In case it does go through, how many grades will it be reduced?

Mr. Jones: Seasoning checks that are known to go through will not be admitted in a grade higher than number 1 common board. You may see a seasoning check on both sides of the piece, and it be not too serious to be admitted in a C finish, yet we would not be positive in our statement that the seasoning check went through, because the condition that caused it to check on one side would likely cause it to check on the opposite side as well. Therefore, unless it is known to be through, or shows some opening through the board, we can't say that it is a through seasoning check. If it is a through seasoning check it goes no higher than a number 1 common board.

Mr. Brooks: I want to know, in the matter of grading lumber, dimension No. 1 and No. 2, I want to know how crooked it can be for No. 1, and how crooked can it be for No. 2 to pass, under the rules?

**Grading
Crooked
Lumber**

Mr. Jones: That is a question that cannot be answered in the abstract. It has never been possible to specify just the amount of crook that would be admitted in No. 1 common dimension, and yet be fair to the retailer and to the manufacturer as well, for if the rules were so worded that they would admit, we will say for illustration, of a one and a half inch crook in a 2 x 4 16. Then I could put in a one and a half inch crook in a 2 x 4 16 if it had a knot one-half the cross section of the piece at the apex of the crook; but no practical inspector would do it, because it would be impossible to straighten that piece without breaking it. If the rules specified an inch crook would be allowed, and no more, then if I found a piece with an inch and a quarter crook and it be absolutely clear, I couldn't put it in No. 1 common and grade it according to the rule.

Mr. Brooks: Well, where it twists?

Mr. Jones: Where it twists over?

Mr. Brooks: Yes.

Mr. Jones: Well, that is another thing that would have to be determined upon an examination of the piece. It is not the intention of the grading committee or the grading rules of the Southern Pine Association to advocate putting in dimension pieces that are so crooked that they cannot be used with a reasonable exertion, and the inspectors along the line have instructions to that effect, and they are also instructing the graders at the mill that way, not to allow any crooks in No. 1 or even No. 2 dimension that cannot be used with reasonable exertion, I don't think it would be practicable to undertake to specify the amount of crook that would be allowed in any grade, because it is a question that would have to be determined by the defects that are in the piece—the texture of the wood and the length of the piece.

In Case of Twists

Mis-Matched Flooring

Mr. Miller: In the matter of mismatched flooring, in the settlement of a complaint, regardless of the amount, what grade should that be reduced?

Mr. Jones: That is another question that is hard to answer in the abstract. There are several stages of mismatch. The fact of the matter is that if lumber is not perfectly matched, it is mismatched; but slight defects in manufacture that don't prevent its use without waste would be admitted in a C grade. Stock that is a little worse mismatched would be admitted in a D grade. But it could be so badly mismatched that it would not be allowed in even a

number 2 common, because it could not even be used on flooring. So that is a question that the amount of mismatch would have to govern.

Mr. Miller: Isn't the matching of No. 2 and common flooring supposed to be as good as B and better?

Mr. Jones: Well, it is supposed to be matched in the same operation; yet defects of manufacture are admitted in a higher grade, so why shouldn't they be allowed in a lower grade?

Mr. Miller: If you have a mismatched lot of No. 2, common flooring, what are you going to do with it?

Pitch in
C Finish

Mr. Jones: Well, if it is a No. 2 common to start with and badly mismatched, then it is not No. 2; it is not good enough for No. 2.

Mr. Lacy: What is the maximum amount of pitch allowed in C finish, provided it has no other defect except pitch?

Mr. Jones: In what width? Do you refer to any special width?

Mr. Lacy: Well, take twelve inch.

Mr. Jones: Twelve inch?

Mr. Lacy: Percentage basis is what I mean.

Mr. Jones: Oh, a percentage basis. Well, one standard pitch streak is 11-1/9 per cent of the face of the board; so in a twelve-inch board, that would be 33 1/3 per cent of the face of the board, provided it is in streaks. Now, that doesn't mean solid pitch, but standard pitch streaks to the amount of 33 1/3 per cent of the face of the board.

Mr. Lennox: For what purpose can you use mismatched flooring?

Mr. Jones: Well, it can be used for ordinary flooring. I have never seen flooring laid yet that was absolutely smooth, unless it was gone over with a floor scraper after it was put down. Lots of times the carpenter is not up to his business himself, and doesn't put it down properly, even if it is properly matched. So, No. 1 common, for instance, that is not the highest grade flooring, and therefore it could be slightly mismatched and still be as good as No. 1 common flooring, as it would be with the defects admissible in No. 1.

A Use for
Mis-Matched
Flooring

Mr. Lennox: Take B and better flooring, that cannot be laid?

Mr. Jones: Well, it would not go in B and better if it is not properly matched.

Mr. Lennox: What is the retailer to do?

Mr. Jones: He could only use it for cheaper flooring—a cheaper grade.

**Wane on
Car Siding**

Mr. Austin: What percentage of wane is permissible on the reverse side of B and better car siding? By what rule do they inspect wane on car siding? What rule governs the inspection of No. 2 car siding developed from running No. 1 car siding?

Mr. Jones: There is not supposed to be any wane, according to the specifications, on the reverse side of B and better car siding. However, practical grading would allow a small amount of wane that would not affect the use of the stock. We have sections in the grading rules which really authorize us to do that. The variation from any given rules are numerous and suggested by practical common sense. Now, as to the basis on which No. 2 common car siding would be graded, we have nothing in any grading rules governing No. 2 car siding. We have had several requests for inspection, and we have had to refuse to inspect them until the purchaser and the shipper might come to some decision between themselves as to a basis on which they would be willing to have the inspection made.

Mr. Austin: What basis would you suggest then, Mr. Jones, to arrive at? Simply sell a man No. 2 car siding, which is just as standard an item today as No. 2 fencing or No. 2 flooring—what basis would you suggest?

**A Basis for
Inspecting
Car Siding**

Mr. Jones: My suggestion would be that the inspection should be made on the basis of No. 2 common fencing. Now, if you ask me why I say that, I will say this: If you will notice the specifications for No. 1 common car siding, it is identical with the specifications for No. 1 common fencing, so that the droppings from that should not be any poorer than the droppings would be from running No. 1 common fencing, and should be graded on the basis of number 2 common fencing.

Mr. Austin: The same would apply to car lining as car siding?

Mr. Jones: Car lining and roofing is all the same; applies the same way.

Mr. Brooks: What is the rule about B and better finish that is shipped, which has evidently become cupped after it has been

dressed and reaches the customer, and he complains about it, and your Association inspector is put upon that?

Mr. Jones: There is no fixed rule regarding that. It is a question of judgment as to the amount of cup and whether it can be straightened out in using, or not. If it cannot be straightened out it would be lower in grade.

Mr. Brooks: Suppose he undertakes to straighten those pieces back in a great many instances it would result in a crack?

Mr. Jones: Yes; if it is cupped sufficiently it would split in undertaking to spring it back.

Mr. Brooks: It is just a question of judgment?

Mr. Jones: It is just a question of judgment and the amount of the cup.

Mr. Spencer: How much wane, if any, is permissible on the face side of No. 1 common car siding?

Mr. Jones: According to the rules there is a good deal more admissible than is allowed by the inspector (laughter). As a rule, we use our common sense and ignore the rules. I don't believe there is a mill that could ship car siding according to the specifications in effect for car siding and get away with it. Therefore the inspector ignores that portion of it and generally will grant a small amount of wane on the face side of car siding.

Mr. Van Landingham: On six-inch No. 2 center match, how much stock would you allow permitting of 25 per cent waste?

Mr. Jones: We will grade it on the basis of No. 2 common flooring and allow stock that could be used for a cheap floor by wasting not more than 25 per cent of the length of each piece.

Mr. Van Landingham: Do you know of any mills that figure it that way?

Mr. Jones: Yes, I know of a few.

Mr. Miller: I would like to ask—the matter of working 11/16 No. 2 boards, $\frac{3}{4}$ inch, or 11/16, as to whether or not the same grading applies to that thickness as applies to 13/16?

Mr. Jones: You mean, orders for boards worked $\frac{3}{4}$ inch?

Mr. Miller: Orders for boards worked $\frac{3}{4}$ inch.

Mr. Jones: The same specifications would apply as if it were ordered 13/16. The manner of working is a matter of preference to the customer. Therefore he can't expect any different grading.

**Cupped B
and Better
Finish**

**Wane on No. 1
Car Siding**

Mr. Miller: As a matter of fact, doesn't it lower the grade a little?

Mr. Jones: To work it to $\frac{3}{4}$?

Mr. Miller: Yes, sir.

Mr. Jones: In my judgment, yes, sir.

Mr. McDonald: An order comes for a car of 6-inch No. 2, dressed two sides. The mill, under the grading rules, can dress that to standard width; they can dress it to size. But the customer rejects, out of the 22,000 feet, two thousand feet. My order called for 1 x 6, No. 2 dressed two sides. The customer accepted 20,000 feet; there are two thousand feet of rejects. The customer says that order calls for 1 x 6 No. 2 dressed two sides. Suppose it is rough? The mill stood firm, and the customer stood firm. Would you suggest how to adjust that complaint?

Mr. Jones: If the mill dressed three sides to the standard, he was at the mercy of the purchaser. The Association and the grading rules do not authorize him to dress three sides standard. He can only dress it to one-eighth inch scant of full whole width. 1 x 6 dressed two sides and one edge to $13/16$ x $5\frac{7}{8}$ —that is what he did?

Mr. McDonald: That is what he did; yes, sir.

Mr. Jones: Well, in that case he was within his rights. If your customer bought it according to the Southern Pine Association standard, the mill is authorized to dress it $\frac{1}{8}$ inch scant of its full width.

Mr. McDonald: He did that; and the customer said, "My order calls for 6-inch No. 2 dressed two sides;" and I was the goat.

Mr. Miller: Why did he take the 20,000 and reject the 2,000?

Mr. McDonald: Because the two thousand feet was No. 2.

Mr. Jones: Well, the only thing you could do with him was to allow the difference in the price between the two grades. He has no legal or moral right to accept 20,000 feet of the shipment and reject 2,000 on account of the method of manufacture when it was all manufactured the same way. He admits that, when he accepts 20,000, that it is entirely satisfactory for it to be dressed on the edge.

Mr. McDonald: I don't want to go ahead and make the customer take it or make the mill take it. I wanted to find some way to compromise it, and I have not been able to do it. The only compromise I have got is to pay for the 2,000 feet myself and let

**When Mill
and Dealer
Disagreed**

**The Salesman
Was the
"Goat"**

it lay in the customer's yard; and I wanted some suggestion as to how to compromise it (laughter).

Mr. Lennox: How is it possible to re-saw B and better 1 x 12; that is to say, if the 1 x 12 be in the rough, and it is re-sawed, how thick could it be made?

Mr. Jones: Well, they couldn't re-saw it within less than 1/8 inch, I don't think. I am not a machinist. I never ran a planing mill, and I really couldn't answer that question.

Mr. Moss: Mr. Jones, what is select No. 1?

Mr. Jones: There is no such a specification as select No. 1, common. It is a misnomer.

No "Select"
No. 1 Common

Mr. Isbell: Why do some mills ship No. 1 common 90% free from knots, and other mills ship No. 1 common 90% with knots, both inspected under the official inspection rules? One of them runs 90% free of knots, and the other runs 90% with knots—both No. 1 common?

Mr. Jones: Both No. 1 common?

Mr. Isbell: Yes.

Mr. Jones: Well, there are other defects that make it No. 1 common. It is the defects in the board that make it No. 1 common; it is not the board itself.

Mr. Isbell: The customer can't discover them, though.

Mr. Jones: Can't discover the defects?

Mr. Isbell: No, sir.

Mr. Jones: Well, he is unfortunate.

A Salesman: Some time ago an order was taken for 6-inch board; nothing said about thickness. The customer expected 13/16 and received 3/4. The shipper acknowledged that he was willing to stand the difference. What should the difference be?

Mr. Jones: That is a question of price, and I am not in position to answer that. That is a matter that he would have to settle satisfactorily with his customer. If the customer ordered flooring he had a perfect right to expect 13/16, and if he didn't get 13/16 it wasn't flooring.

Mr. Houston: In grading No. 2 center matched, you said 25 per cent waste. How many cuts?

Grading No. 2
Center
Matched

Mr. Jones: It is based on the standard of 16-inch centers, and in that way you will figure that each cut will consume 16 inches waste. Therefore in a 10, 12 and 14-foot, we would allow two cuts. In 16, 18 and 20, we would allow three cuts;

in other words, as many knot holes in one place as could be cut out with 16 inches of waste; but if they couldn't cut it without more than sixteen inches of waste, then each knot hole would be considered a cut.

Mr. Houston: That applies to No. 2 flooring or No. 2 fencing?

Mr. Jones: That applies to No. 2 common flooring; and No. 2 common fencing, surfaced two sides and center matched is graded the same as flooring. No. 2 common fencing surfaced two sides or rough, as the case might be, is not graded with a view to any waste whatever.

Mr. Houston: How many cuts could you have in a piece of No. 3 fencing dressed and matched where you have got $\frac{3}{4}$ of the length cut as good as No. 2 common; how many pieces must that $\frac{3}{4}$ be in?

Mr. Jones: It may be in three or four pieces; just so it will cut 75 per cent as sound as No. 2 common.

Mr. Houston: Then you would admit more pieces in the residue of No. 3 fencing?

Mr. Jones: Yes, I would allow more pieces. It is a lower grade lumber.

Mr. Van Landingham: On this No. 2 center matched again, there seems to be a good deal of difference of opinion between the inspectors and the railroad committee. I have had considerable correspondence with the railroad committee, and one of them tells me he was instrumental in drawing up that rule in the first place, and he tells me that rule provided for only taking care of an occasional piece. Now, a while ago you said you might allow 25 per cent waste?

Mr. Jones: Yes. There is no difference whatever in the inspection on 6-inch center matched and No. 2 common flooring. It only provides for the occasional piece in fencing, and it would only provide for the occasional piece in flooring. Now, I don't know—I wasn't present when that rule was inserted; I knew nothing about it until it was in there; and if that was the idea they meant to convey, to take care of the occasional piece, it would be necessary to add in that rule the per cent of pieces that would be allowed, admitting of waste.

Mr. Van Landingham: How can a man tell what he is going to get?

Mr. Jones: You will find the same proportion of pieces having waste in No. 2 common fencing surfaced two sides and center matched, as you would in No. 2 common flooring, because it is manufactured and graded under identical operations, graded by the same man that grades the flooring, and he doesn't make any distinction between that and the flooring. It is just simply the condition, or rather the quality of the stock that is run in the fencing.

**No. 2 Fencing
and No. 2
Flooring Grad-
ed the Same**

Mr. Blake: The grading rules specify that 1x12 boards shall be not less than 11½ inches wide.

Mr. Jones: Yes.

Mr. Blake: Suppose you received an order for 1x12 S 2 S, and you dressed that three sides to 11½ inches; you would have a rejection.

Mr. Jones: You would. You didn't fill the contract at all. It is not the intention that they meant to convey, that the entire shipment might be 11½ inches.

Mr. Blake: Don't you think such provisions as that should be corrected, so as to allow no difference of opinion between the fellow who is buying it and the fellow who is shipping it? Each one is trying to do what is right.

Mr. Jones: I know, but—

Mr. Blake: I will ask this, further: What would be the difference in instructing the sawyers to cut those boards so that after drying they would be 11½ inches?

Mr. Jones: Well, there would not be any difference, so far as that is concerned. But I was going on to say, that is there to take care of the occasional miss-cut, or the board that has undergone unusual shrinkage. There is no man that can fix a saw so that it will run true all the time and cut every board the same width. There is bound to be some variation in the width; and a piece that does not fall below 11½ inches, although it is a slightly miss-cut board, is still admissible for 12 inches.

**Variations
in Widths
Bound to
Occur**

Mr. Blake: Well, then, what would be admissible on an order, dressed two sides, or dressed three sides?

Mr. Jones: Three sides? What would be admissible? 11⅞. In all 1-inch common stock which is ordered surfaced two sides, one edge may be dressed to bring the width ⅛-inch scant of the

full width, which would be $11\frac{7}{8}$.

Mr. Blake: Would the same apply to thickness?

Mr. Jones: Thickness? No, sir.

Mr. Blake: You would not have the privilege of setting the machine to dress one side at $\frac{7}{8}$?

Mr. Jones: You can dress it to 1 inch, and still be counted as rough.

Mr. Blake: $\frac{7}{8}$ is considered rough?

Mr. Jones: That is the minimum thickness.

Mr. Blake: It seems to me—I don't understand it—it don't seem right to me. If a man orders a car of 1x12 boards dressed one side to $\frac{7}{8}$, he certainly has a fuller thickness to work on than if he received the boards rough $\frac{7}{8}$.

Mr. Jones: Well, he doesn't get them all $\frac{7}{8}$ in the rough. The same thing applies to the thickness as it does to the width. That is intended for the occasional miss-cut piece that will occur in the best regulated mill.

Mr. Blake: The intent of the rules of the Association is to standardize?

Mr. Jones: Yes.

Mr. Blake: Well, now, it seems to me that there is a working difference there. You say he expects to get something better; that is your answer to my question: he expects to get something better. Didn't you answer my question that way—that he expects to get something better than $\frac{7}{8}$ flooring when he specifies rough?

Mr. Jones: Yes. He has ordered 1-inch stock. He has a right to something better than $\frac{7}{8}$.

Mr. Blake: I should say so.

Mr. Jones: Well, it says so—it doesn't say so directly.

The Chairman: Any other questions, gentlemen?

Mr. Spencer: Mr. Jones, about how much pitch, if any, should be allowed in No. 1 yellow pine lath?

Mr. Jones: Very little. I would not undertake to specify the amount of pitch that should be allowed in No. 1 lath.

A Voice: It would not stay on when they put the mortar on.

Mr. Jones: No. Very little pitch should be allowed in No. 1 lath.

Standardize
Association
Rules to
The Intent of

Pitch in
No. 1
Pine Lath

Mr. Spencer: Would the same be true of No. 2 as No. 1, because of the fact that they would both be used for the same purpose?

Mr. Jones: No, I would not say so; because No. 2 is a cheaper grade and expected to be used in a cheaper building.

A Voice: And throw parts of it away, too.

Mr. Spencer: Do you mean to say that you will allow waste in No. 2 lath?

Mr. Jones: No, no; you don't allow any waste in No. 2 lath. But he can throw part of his lath away. (Laughter.)

Mr. Marshall: An order calling for 2x4, S & E; mill surfaced four sides to the S & E standard. Can the customer complain of the working, and can he be sustained?

Mr. Jones: He cannot complain of the working and would not be sustained, if it was surfaced four sides to the standard.

Mr. Bower: I want to make a few remarks in regard to the School of Salesmanship.

The Chairman: Is the question to Mr. Jones?

Mr. Bower: No; but I thought this is about going to break up here in a minute, and I just wanted to put this to the salesmen while they are here.

The Chairman: All right.

Mr. Bower: I want to know, after the Southern Pine Association members have gone to the expense of having all these salesmen come up here, whether or not there is going to be a permanent organization; and, don't you think, or don't the salesmen who are here in attendance think, that instead of going to retail lumber dealers' associations in the future, that it would be far better to go to a school of salesmanship once a year, and thereby getting training, and not getting gin-headed at these retail lumber dealers' conventions? (Applause.)

Prefers
Learning
to Gin

The Chairman: Gentlemen, you have heard Mr. Bower's suggestion.

Mr. Bower: I personally would like to come up here once a year instead of sticking around in Texas and attending retail lumbermen's conventions and never picking up any business.

Mr. Montgomery: Apropos of what Mr. Bower has to say, I have a resolution I would like to offer. I think without exception all who have attended this School of Salesmanship will agree that we have been greatly benefited and while it was not,

perhaps, the original purpose that we should all have a good time, I think, nevertheless, we have all had a good time, and on that account I want to offer the following resolution, which I have prepared:

"Be It Resolved, That the Committee on Salesmanship and Distribution extend to the Board of Directors of the Southern Pine Association, and also the owners of concerns participating in this meeting by permitting their sales departments to join, a vote of thanks, and an expression of appreciation and earnest co-operation, by making an attempt to improve ourselves as salesmen, with a view of improving the present method of distributing our product."

I would like to offer that.

The Chairman: You have heard the resolution, gentlemen.

(The resolution, having been duly seconded, was put by the Chairman to a *viva voce* vote, and was unanimously carried.)

The Chairman: Gentlemen, it will be manifestly impossible for us to attempt through any concerted plan or by any method, to answer all of these questions. Is there any other question before we adjourn? We will adjourn permanently—any question that you want settled before you leave, and you won't wait until we can turn over these questions to competent hands and have them answered in the printed record? We would like to have it now. If not, we will proceed. (Pause.)

Gentlemen, I wish to say that every paper, without exception, that is listed on the original program, together with one or two splendid papers that were not on the program, but have been offered us by salesmen, will be printed in the record. Dr. Krebs's speech, General Boyle's speech, and all of the extemporaneous addresses have been taken down by the stenographer, and they will all be incorporated in that book. Mr. Rhodes tells me that he is going to spend his summer vacation indexing that volume. I anticipate that the book will not be out until about the middle of August, but it will come in good shape, properly indexed, and all of the discussions and questions will be incorporated in it. There are some few questions that have been put to us, that for various reasons we can't print the answer; but if the gentlemen will sign the questions we will be very glad to answer them by letter.

A Resolution
of Thanks for
the Association

Some
Questions
Answered
by Letter

We anticipated, when we first put on the School of Salesmanship, that we would be able to hand you, as you passed out, a printed record, but unfortunately, a great many of the speakers didn't send in their prepared addresses, and we spread out a little and got speakers who used no notes, so that the book cannot be given you as you leave the hall.

There is one thing, however, that I wish to caution you gentlemen about, and that is, don't expect immediate results either from this or from the territorial organization. The grading rules of yellow pine have been written a great many years. The grading committee of the Southern Pine Association has been at them for the last year and a half, and they are just beginning to see daylight ahead. It is a long, uphill pull, and it may be one or two years before any results of this or the territorial meeting will be felt in the lumber world.

**Don't Expect
Immediate
Results**

Gentlemen, as Chairman of the Sales and Distribution Committee, I want to thank all of you sincerely for the splendid attention and attendance you have given. The attendance went way beyond our expectation, and the results obtained are very gratifying. A motion to adjourn is in order.

(A motion to adjourn was made, and having been duly seconded, was put by the Chairman, and unanimously carried.)

Thereupon, at 4:40 o'clock p. m., the School of Salesmanship adjourned, *sine die*.

Territorial Organization of Traveling Salesmen

Herewith is the list of chairmen and alternates for the territorial organization of salesmen, explanatory details of which are given in the report of the proceedings of the convention, elsewhere in this book:

TERRITORY.	CHAIRMAN.	ALTERNATE.
Texas	H. A. Strube.....	F. J. Lennox
Oklahoma	B. H. Miller.....	J. F. Schnieders
Kansas	Otis Smith.....	J. S. Prestridge
Indiana	Ed. Troy.....	Alexander Hamilton
Ohio	J. R. Diamond.....	Jas. H. Heyl
Kentucky & Tenn.....	H. S. McLaughlin.....	J. A. Brook
Northern Illinois.....	S. E. Barwick.....	Jack Brantley
Michigan	C. J. Ashton.....	Chas. W. Myers
Nebraska & Iowa W.....	R. K. Eaton.....	W. M. Simpson
Minn. & Iowa East.....	Chas. Martin.....	Geo. Fleming (Clements)
Virginia & W. Penn.....	T. H. Meed.....	_____
Illinois, South.....	E. B. Eckart.....	E. E. Willett (C. B. Willis)
Missouri, East.....	R. S. Price.....	D. M. Lacey
Missouri, West.....	C. W. Thornton.....	J. H. Hatcher
New York City.....	Rodney E. Browne.....	Joseph H. Lane
Arkansas	J. H. Smith.....	H. B. Houck
Alabama & Louisiana.....	W. A. Morton.....	_____
Louisiana	F. H. Campbell.....	J. D. Batchelor
New England.....	_____	_____
Mississippi	_____	_____
Southeast Seaboard.....	W. C. Fellows.....	_____

What *the* Southern Pine Association Is

By J. E. Rhodes

Secretary-Manager, Southern Pine Association
New Orleans, La.

The Southern Pine Association is unique among commercial organizations of the United States.

It is a corporation organized under the laws of the State of Missouri, for the purpose of selling certain service to subscribers. It has a paid-up capital stock of \$2,000, held by its directors. The service of the Association is sold like that of a mercantile rating agency, to any person who desires it, but it is of a special value to the manufacturers and wholesalers of Southern Yellow Pine only.

Each person or firm subscribing to the service of the Association signs a contract which specifies that in order that the objects of the Association may be carried out, as a clearing house of information concerning Southern Yellow Pine, certain information will be furnished for compilation and distribution in the shape of summaries or averages for the benefit of all, and that when such information is furnished, a rebate of 5 cents per thousand will be made to the subscriber on his fees, which makes a net rate of assessment of 5 cents per thousand, based on monthly sales.

Because of the results achieved from the work so far inaugurated by the fee of 5 cents on monthly sales, it is now proposed to increase the subscription fees 1 cent for every six months, beginning July 1, until the maximum net fee of 10 cents per thousand has been reached, if it is found that the revenue based upon that charge is necessary.

The affairs of the Southern Pine Association are supervised by a board of two directors from each state in which subscribers are located, with three from the State of Missouri. Hence with two directors each from Florida, Georgia, Alabama, Mississippi, Louisiana, Texas, Arkansas and Oklahoma, and three from Missouri, there is a board of nineteen directors. The directors are nominated by the subscribers of each state, and are thereupon elected by the stockholders at the annual meeting of the corporation. The

**How Association
Affairs
Are Managed**

directors, in turn, elect the president, two vice presidents, treasurer and secretary of the corporation, and they also employ the manager of the Association. The directors meet once each month to pass upon all details of the organization as submitted by the president and the secretary-manager, including the work and recommendations of the various committees.

The work of the organization is largely conducted by committees, which have direct supervision over the several departments. These committees are composed of representatives of the subscribers, each subscriber being asked upon what committee its representatives would like to serve. Each individual concerned is urged to lend his services to that particular branch of the work in which he may be most interested, thus enlisting the active participation and interest of all. The committees are appointed by the board of directors, and each committee selects its own chairman. All but twelve subscribers are represented on committees, and these prefer not to be.

The Association now has 167 subscribers, representing 195 mills manufacturing Southern Yellow Pine, and one wholesaler. Their aggregate annual shipments amount to between 5,250,000,000 and 5,500,000,000 feet. These firms represent the progressive element of the industry. They are men who believe in co-operation and who are willing to bear their share of the work and pay their portion of the expenses for the good of the whole.

The following is a brief summary of the work of the several departments conducted by the Association.

Inspection Service—The inspection department is under the supervision of the grading committee, which consists of sub-committees having charge of the standard specifications for the grading of yard stock, timbers, car material, railroad maintenance of way material, lath, shingles, structural timbers, navy specifications and export grades, as well as sub-committees on standard sizes, dry kiln methods, mouldings and brandings.

The inspection staff consists of the chief inspector, inspector of grades, and sixteen official inspectors. The mills represented by the Association are divided into nine inspection districts, each being covered by a mill route inspector, who visits the plants in his district once every thirty days. The mill inspector leaves a report showing the items of stock handled by him, and the percentage above and below grade on the amount of feet of each grade inspected. He instructs the mill graders in their work, and efficiency

cards are issued to the graders of each class of stock at each mill, based upon the monthly report of the Association inspector. The instructor of grades follows the work of the mill route inspectors and confers with mill graders regarding their understanding and interpretation of the Association rules. For this purpose local conferences are held, attended by all of the graders of a certain mill town or district. Conferences of the head graders of mills and the Association inspectors are held by the chief inspector at least every six months in different sections, in order that the most absolute uniformity possible in the interpretation of the Association specifications may be arrived at among all of the mills whose grades are under the supervision of the Association. In order to still further arrive at this result, the Association inspectors are transferred from one mill route to another about every six months, which enables them to compare the grades as made in one district with those of another.

The Association receives an average of five claims per day, making necessary the employment of from eight to ten claim inspectors for the inspection of stock rejected by purchasers. These men, all of whom are transferred from mill route work and frequently rotated with the mill route inspectors, cover practically the entire country, an effort being made to handle all claims within two weeks after the receipt of the papers. Up to the present time inspections have been made upon Association grades, upon the requests of any manufacturers or wholesalers, upon the payment of \$10 per day for the services of the inspector and his expenses. Inspections for subscribers are made for the actual expense only. Beginning July 1 the Association will make inspections upon stock manufactured by subscriber mills only. Inspections will be made upon the order of subscribers upon stock purchased by them from other mills and sold upon Association grades.

Nearly one hundred retail lumber dealers, representing the retail trade of the United States, as guests of the Southern Pine Association, recently visited mills of subscribers and inspected the system by which we seek to establish the greatest uniformity possible in the grading of Southern Yellow Pine. As a result, they emphatically urge all manufacturers of Southern Yellow Pine to support the Southern Pine Association and participate in its inspection service. The co-operation of the dealers has been requested in revising and amplifying the standard specifications of the Asso-

**Retailers Urge
Association
Support**

ciation, in order that there may be the least possible doubt and misunderstanding of their meaning.

It is the desire of the grading committee to establish the integrity of the grades for Southern Yellow Pine, so that the purchaser may be assured of receiving stock of the grade which he ordered. To carry out this policy the Association will furnish an inspector to review any shipment of Southern Yellow Pine sold upon Association specifications, when there is good reason to believe that a lower grade from that ordered was deliberately shipped.

The printed grading rules of the Association are for free distribution, a copy of the standard specifications for yard grades having been mailed to every lumber buyer in the United States. Copies of these rules, as well as of the specifications for "Railroad Maintenance of Way Material," "Car Material," "Timbers," and export grades will be furnished for distribution to your customers. The moulding book has also been sent to the retail trade of the country, and its general distribution and adoption is urged.

The sub-committee on branding is now experimenting with various devices for the automatic branding of lumber, with the trade-mark of the Association and the index number of the mill, which will make the identification of stock easily possible. The use of the trade-mark will be confined to subscriber mills, and subscribers are requested to insert in each car shipped a card on which will be shown the grade and tally of each item loaded, with the statement that the shipper guarantees the same. The name of the mill, or its index number, as given by the Association, will be shown on the card.

The American public is increasingly demanding that manufacturers shall guarantee their product, and it is the desire of the grading committee that the Southern Pine industry should occupy its rightful position before the public by guaranteeing, not only the exact grade and tally sold, but a square deal in the adjustment of complaints.

Statistical Service—One of the most important functions of the Association is the publication of accurate statistics concerning the industry. The Weekly Trade Barometer, inaugurated a year ago, has become a recognized feature of the entire lumber industry, reflecting as it does an accurate showing of production, orders and shipments of Yellow Pine. It is the policy of the committee of accounting and statistics, under whose supervision all statistics

are compiled, to furnish the Weekly Trade Barometer and the monthly statistical summary to all who desire them.

The veracity of these statistics has been absolutely confirmed by the fact that during the last twenty weeks they have been published broadcast, at the time when the market conditions illustrated by them have been generally unfavorable to the interests of manufacturers.

The monthly report of "visible supply" of stocks held by the manufacturers in shipping condition and uncovered by orders, was recently inaugurated and will be of increasing value, as it becomes possible to make comparisons of the quantity of different grades on hand from month to month.

In addition, the monthly summary shows the relation of stocks on hand to the normal or *average* stock usually held. This report also shows production and shipments in relation to the actual production for any given month.

Accounting Service—Under the supervision of the committee of accounting and statistics, statements of costs of production submitted by subscribers, are compiled each month giving the details of the various items making up the costs from the stump to the lumber loaded for shipment, enabling each subscriber to compare his costs with those of others. This work is in the interest of reduced costs of production, as well as uniform accounting, the necessity for which will be explained by other speakers.

**Accounting
Service**

Promotion Service—In addition to its efforts to bring about uniform methods in the manufacturing and accounting departments of the business, the principal work of the Association is devoted to the exploitation of Southern Yellow Pine. Under the direction of the advertising committee, an extensive campaign has been conducted in co-operation with the trade extension committee, seeking to acquaint the public with the merits of yellow pine for various specific uses. In addition to the purchase of newspaper and magazine advertising space and the publication of an attractive and exhaustive line of illustrated books and pamphlets, which the advertising manager of the Association will explain to you, the Association possesses a quantity of exhibit material, showing the uses of yellow pine for interior finish, car material, paving blocks, floors, mill construction and many other things. We also possess a number of sets of reels of moving pictures taken with our own camera, illustrating Southern lumbering operations from the stump

**Promotion
Service**

to the finished product, which are in constant circulation among audiences of every description in the United States.

It is the desire of the committee that the advertising literature of the Association shall have the widest possible circulation, and although we have mailed out many hundreds of thousands of pieces, many of them upon direct requests of consumers who have replied to our advertisements, salesmen can assist greatly in the more effective distribution of this literature. We shall be glad to send to any address upon the request of any salesman, such quantities of our booklets as he thinks can be used to advantage.

Publicity Service—In connection with the advertising department a publicity service is maintained by the Association for the preparation of articles upon the Southern lumber industry, in all its varied phases, for publication by newspapers, magazines and trade papers of the country. A news letter covering the essential features of the market, as portrayed by the statistics, is published weekly by fifty-five news and financial papers. In addition, we furnish photographs and illustrations desired by publishers in connection with articles concerning Yellow Pine. In addition to the moving pictures and exhibit material, we have in circulation a number of sets of lantern slides among retail lumber dealers, teachers, lecturers and public speakers.

The trade extension committee consists of sub-committees on building plans, paving blocks, silos, moving pictures and exhibit material, railroad material, box shooks and export sales.

Traffic Service—The Association, under the direction of the committee on transportation, maintains a comprehensive file of lumber tariffs for the use of subscribers, also a library containing rulings of the Interstate Commerce Commission, and of all state Railroad Commissions as well as statistics of lumber and other tonnage, data on scale weights, car supply and other transportation records. The Association is in position to furnish any information concerning traffic matters, and will vigorously take up in behalf of Southern Yellow Pine shippers any traffic matters in which no conflict of interest appears between the various subscribers of the Association.

Subscribers are furnished monthly, as a part of this service, the freight rate books issued by the Schuster Printing Company.

Engineering Service—In connection with the work of a number of the sub-committees of the trade extension committee, the

Association
Publicity
Service

Traffic
Service

Association maintains an engineering department to which is referred questions of technical character for scientific research. These deal chiefly with problems of construction, wood preservation, fire proofing, utilization of waste, improper uses of wood, tests of timbers, dry kilning methods and creosoted block paving. The publicity in behalf of creosoted wood block paving for streets and factory floors is followed up by the paving engineer and his representatives. The Association issues specifications recommending the methods of treating and laying wood block pavements. This service is at your disposal any time you have any questions of a technical nature upon which you or your customers want information.

**Engineering
Service**

The Association architect prepares plans of all types of structures for the use of the advertising department, as well as passing upon questions submitted by those who respond to our advertising. This service, in connection with the trade extension bureau of the National Lumber Manufacturers' Association, keeps in touch with the changes in the building codes of the various cities, and with proposed ordinances seeking to restrict or eliminate the use of wood under unfair competitive conditions.

The engineering department has issued the Southern Pine Manual, containing technical data for the use of architects and builders.

Under the supervision of the committee on export sales, the Association maintains a European representative, who is now in charge of an exhibit installed in the "Exposition of a Reconstructed City," in Paris, France. This is a very elaborate exhibit intended to show foreign purchasers the variety of purposes for which American Pitch Pine can be used, as well as its availability. A series of publications printed in foreign languages is being published.

**Promotion
Work In
Europe**

One of the most recently appointed committees is that of sales and distribution, under whose auspices the school of salesmanship is being held. While the Association has established the various departments mentioned, it seemed highly desirable to bring about the co-ordination of the sales representatives with this whole field of activity. The salesman is the man on the firing line; more than that, he is the advance guard, in a position to report when, where and what kind of shots should be fired in order to advance the cause of Southern Yellow Pine and of wood generally, in the fight in which we are all enlisted.

You will observe from what I have stated that the Association possesses much of the machinery necessary to keep Southern Pine

before the public, to insure those who use it of honest treatment, and to study and investigate the improvements which can be made in manufacturing and merchandising, and to achieve the highest efficiency possible for the industry.

It is needless to say that this work is conducted in strict conformity with the laws. It is, indeed, exactly in harmony with the views of the President of the United States, who in a recent letter to the chairman of the Federal Trade Commission urging the necessity of increased efficiency on the part of the American business, said:

THE WHITE HOUSE, WASHINGTON.

"MY DEAR MR. HURLEY:

"Your suggestion that trade associations, manufacturers' associations, and other similar organizations should be encouraged in every feasible way by the Government seems to me a very wise one. To furnish them with data and comprehensive information in order that they may more easily accomplish the result that they are organized for is a proper and useful government function. These associations, when organized for the purpose of improving conditions in their particular industry, such as unifying cost accounting and bookkeeping methods, standardizing products and processes of manufacture, should meet with the approval of every man interested in the business progress of the country.

"Too much emphasis cannot be placed on your suggestion that materials, methods and products in industry should be standardized upon the basis of specifications drawn up in friendly co-operation with engineering societies, industrial experts and trade associations. Further standardization in our industries will not only reduce the cost of production, but assure the producer better materials and more efficient workmanship, and to the consuming public the manifest benefits resulting from not having to pay for a wide and increasing variety of products and materials. Judicious standardization also means a greater return on a given investment. Capital now tied up because of inefficient methods will be released and can be used effectively elsewhere.

"If we are to be an important factor in a world's markets, we must be more thorough and efficient in production. The encouragement of trade associations and standardization, and the installing of better cost accounting methods in our business concerns will go a long way toward accomplishing this end.

**Trade
Associations
Promote
Efficiency**

"It is my hope that, in addition to the other work which the Federal Trade Commission is doing, it will ascertain the facts regarding conditions in our various industries. If it finds that an industry is not healthy, it should, after carefully considering the facts, in co-operation with the parties interested, suggest a practical and helpful remedy. In this way many of our difficult business problems might be solved."

WOODROW WILSON.

To summarize, the Southern Pine Association stands for:

Efficient Service,
Uniform Grades,
Guaranteed Measure,
Intelligent Merchandising,
Prevention of Waste,
Careful Manufacture,
Co-operation with Distributors,
Effective Trade Promotion,
Progressive Methods,
Accurate Statistics,
Scientific Research,
Uniform Accounting,
Legitimate Publicity,
Integrity of the Industry,
and
A Square Deal.

**Association
Interests
in Brief**

Character Judging as a Business Asset

By Dr. Stanley L. Krebs
Institute of Mercantile Art
Philadelphia, Pa.

A Combination of
"Firsts"

I was thinking of a series of firsts. I expect this is the first time such a meeting has been held. This is the first time that I have faced such a convention with the particular purpose back of it that you have; and this is probably your first-time contact with my specialty, or work, which I am pleased to call, practical or applied psychology, or the mind working out the thing for the hand and the feet to do, and doing it. And in this combination of firsts, Mr. Chairman, I feel a little bit like telling you an anecdote of Sam Jones' I knew Sam well. I lectured in Cartersville, Georgia, and was entertained in his beautiful home there. I was thinking of something that happened to Sam in Dallas, Texas, and he always loved to tell us about it. In Dallas he was holding revival meetings, and he was trying to make the point that there was no such thing as a perfect organization. He said, there is no perfect government; there is no perfect secret society, lodge or fraternity; there is no perfect church denomination; there is no perfect school, college or university; there is no perfect firm or company; there is no perfect family, said Mr. Jones, because, he said, there is no perfect individual, and since each of the organizations or composites are made up of pieces, or parts known as individuals, and those individuals are all imperfect in some particular or another, you can't expect a perfect thing when you have got a bunch of imperfect pieces to make up that thing. He challenged his audience; he asked them, was there a man present who was an absolutely perfect man, and if there was, let him rise in his seat; and he paused and looked around, but not a man dared to accept a challenge like that. Then he turned to the ladies and said, if there is a woman present who is acquainted with an absolutely perfect woman, let her rise in her place; and to Sam's intense astonishment a demure little woman, clothed all in black, arose in the middle of the audience, folded her arms and looked at him. Well, when Sam could get his breath he said: "Sister, are you

A Surprise
for Sam
Jones

acquainted with an absolutely perfect woman? Now, think of my words: An absolutely perfect woman"? "Well," she said, in her quiet little manner, "I was never personally acquainted with her, but I have heard a great deal about her. She was my husband's first wife." (Laughter.) And so you see, first impressions are very natural.

Now, the subject that has been selected today is, Character Reading as a Salesman's Asset; Character Reading as a Business Asset; or the Psychology of Salesmanship; the specific psychological side of salesmanship.

Now, my friends, as you know, salesmanship is a science today; and when I used that word "science," I use it in exactly the same way as I speak about the science of chemistry or the science of astronomy. It is not simply the combined opinions of any salesman or salesmen or merchants. That would not make a science. The opinions of a chemist is not the science of chemistry. His opinions are entirely different, as a rule, from the experiments that he makes in his laboratory, and you can't deny the experiments, though you can deny his opinions. All opinion is always shifting; but a fact that I can reproduce, that is permanent forever, for I can reproduce it forever. Now, that is the thing we want to look into in our chapter of salesmanship, because you can't study the science of salesmanship in one hour; you can't study the science of chemistry in one hour. What kind of knowledge of chemistry would you have after you listened to a lecture on chemistry for one hour? How could you gain a knowledge of astronomy in one hour? So don't expect me, fellow-salesman, to cover the art for you in one hour—and I shall leave off in the course of one hour. It is utterly impossible. I am not going to attempt it, but I am only trying to give you the idea, in order to call your attention to the fact that it is a science, so that you will get the professional spirit, so that you will feel, if you are hired, like I am, by John Wanamaker—I am hired by John Wanamaker, but I am not working for John Wanamaker; I am working with John Wanamaker; and there is a whole lot of difference if you are working for a firm, or if you are working with a firm. "For" is a pile of sand grains. "With" is a tremendous structure and becomes an engine of might, hammering and bolstering success.

Now, what is salesmanship? It is a science. Now, what is science? There are two definitions that are current today among

**Salesmanship
Is a Science
Today**

**The Definition
of a Science**

scientific bodies. One is Herbert Spencer's. Spencer says that science is classified knowledge—not classified opinion. Krieb's opinions, if we should classify them, chapter by chapter, might be arranged logically, but they might be entirely unscientific. Unless you can reproduce what I say, it is not scientific. It does not matter how true it might be. So there is a second definition of science, namely, science is the body of facts that can be reproduced. Now, that does not include all truth. The realm of truth is larger than the particular realm of scientific truth. Scientific truth is that part of truth which you can repeat, and I can repeat, and the other fellow can repeat. Truth is much larger than the scientific part of it. If a thing happens once, but cannot be made to happen again, it is not scientific, and yet it may be true. If only one meteorite ever fell and struck this earthly ball, we would not have any chapter on meteorites. But another and another and another fell, and you can repeat the examination of that particular stone, and now we have six hundred. One would have been just as true as sixty, or six hundred, but we would not have a chapter in the science of astronomy based upon the falling of one meteorite, because the thing was not repeated. Once I can reproduce the X-ray, I don't need to listen to Roentgen. I don't care what Roentgen says about it; I can perfect it myself. The facts speak to us in science, not the opinion of a man that they will occur. Herbert Spencer's definition stands, but it takes reproduction by thousands of scientists to prove that it is so. So that your success and my success in selling a thing is repeatable unanimously. You can tell the other fellow how you did it, and hear how he did it. If we fail, we ought to study the failure. In science we study the failure just as sincerely as we study the success. There is a cause for failure. Nothing happens without a cause. Absolutely nothing on earth happens, or in heaven or hell, without a cause, and a wise man sits down and finds out the causes of this particular failure or of that particular success. Failures are just as important in science as successes.

Now let's see whether it is classified knowledge. I want to give you the classification in which our art and science stands. The world is doing just five things. Now, that simplifies the work of the world. Every man is doing, if he is creating human happiness, one of those five (unrolling and displaying a chart). And the purpose of everything is human happiness. Human hap-

**Facts That
Can Be Re-
produced**

**Study Failures
As Well As
Successes**

**The World
Doing Five
Things**

piness is the highest motive we can work for; and when you are selling good goods to a customer you are creating happiness. You are doing them good. Not *doing* them good, but doing them *good*. (Laughter). You know how to do both, if you want. The first is production; that is the first of the five. There are more dollars and human brains invested in producing things than all the others combined. I don't know what Venus and Mars are doing, our neighboring planets, but I do know that the earth is a producing unit. Next comes distribution, distributing the products thus made, man to man, city to city, and so forth. That is an enormous part of business. The next is government, then education, and then religion, arranged in the order of business convenience, or the relative amount of dollars invested in each. One city, New York, leads because more men of business live there. The men and women who make their living by selling their educational and religious ideas, for which we pay them, happen to be the last of them all.

Now, there is no one out of those five. If there is, he ought to be locked up. Why? Because he tends to spread human misery by the thing he is doing, if he is not doing one of those five. Now, I can name some things not included there. You take the thief. He is not producing or distributing anything, aiding the conduct of government, sowing education, or sowing religion, but he is spreading human misery, and that is the reason he ought to be locked up. Does the thing you are doing create human happiness, or human misery? If it tends to create human misery, you are wrong and abnormal and insane. Every man who wants to create human misery has got something wrong with his upper story, or wrong with his heart. Now, the gossip—what is she doing? She sees Mr. Smith walk down the street with Mrs. Jones and turn the corner and disappear, and says: "There is something doing now." Merely because of a courtesy to a lady friend this she-devil says: "Now, look at that!" She is insane. We ought to have the spirit of the boy and play the game of life lightly. I believe we ought to have more life, even when we are gray-haired. I like to flirt. (Laughter). God Almighty knows that, and you might as well know it. (Laughter). I like to flirt with my neighbor's wife, and I like for him to flirt with my wife. If she wasn't flirtable I would not think she was worth anything. But he must not flirt too long. (Laughter). Now, why did Mrs. Thompson say that? Because, if Mrs. Thompson was in

Nothing Useful Outside These Five

Mrs. Smith's place there would be something doing. (Laughter). So Mrs. Thompson hangs her soul on the outside of her skin when she talks of a thing like that. She spreads human misery. And many a man in great positions of the political and business world, on the platform and in other walks of life, has been damned by just that insanity. And that is the way a thing spreads that is perfectly insane. There are only five things that produce happiness, and a man who is working in any one of those five is a servant of God Almighty, for His highest purpose is human happiness.

Now, here is what our work lies in—distribution. Transportation has a little to do with that, but we are chiefly concerned with merchandising. We are merchants. The salesman is a merchant. There is where the work of this convention comes in; and it has these various elements in it (indicating upon the chart). Now then, we have got the position of selling. Let's go into selling. That classification does not depend upon my opinion or your opinion. That is absolutely true, and will be true millions of years from now, and there will be no sixth thing ever added to it, and you can't drop one of the five. You see now, five are there, and you can't think of a sixth, and hence it is a perfect classification.

Now I want to go into selling and see what classification we have there; and we lift this chart (removing the first chart and exposing a second), and we will see, as there are five normal human activities, so there are five permanent, necessary, fundamental, always-present elements in salesmanship. First, there must be a salesman, and then there must be a customer. Those are the two human elements, the salesman, trying to persuade the customer to think as he does about his merchandise or his proposition—one mind trying to persuade and convince another mind to think and feel as the originating mind does about the goods. Then we come to two things—the goods and the money. First, there must be two things; the two human beings, two minds, individual or composite, but two minds, one leading and the other led; and of these two things (the money and the goods), the customer must have this thing and the salesman must have this thing; and when these two things change hands to the satisfaction of both, then only do you have a business result. If it is to the satisfaction of the customer and the dissatisfaction of the salesman, the salesman can't stay in business; and if it is to the sat-

**The Sales-
man's Work Is
Distribution**

**An Analysis
of Selling**

isfaction of the salesman and the dissatisfaction of the customer, the customer can't stay in business either; but when it is to the satisfaction of both, you have business construction, or the sale. Now that is all. Any experience that any salesman ever had is not peculiar. There is no peculiar work under the sun. Tesla's work is not peculiar, my work is not peculiar, neither was Spencer's work peculiar. It is bound to be classified there. You will find that within the professions which are supposed to be so far remote from the business world that they feel that they are not business people, why, that they actually cater to those elements right along, and they can't escape it. And goodness alive! If many a minister and lawyer, doctor and artist would study salesmanship, the minister would be a better fisher of souls, the lawyer a better pleader for justice, the artist a better salesman of his creative work. You have those five—the salesman, the customer, the goods, the money and the sale. Now, those will be there. The doctor is a salesman. He is selling to the sick person; that is the doctor's customer. What does he sell? Medicine, treatment. What does he sell it for? Money. And the engagement is simply the customer's agreement to buy the goods the doctor displays there. And take the lawyer. His customer is called a client. He sells the law, or his knowledge about the law; that is his goods. He sells it for money; and the engagement is the agreement, or the sale; and he has got to persuade his client that he has the goods, knowledge of the law, or the client will never buy from him. You take the minister, that seems to be so far removed from our work, gentlemen, and he is a salesman. His customer is the sinner, or the heathen. What is he selling? The Bible, the church and religion; that is what he sells—and repentance and faith; and it is supposed to be free, but after they get in they pay money to stay in; and the sale is called conversion, where the customer agrees to the proposition about the church, the Bible or religion that this man makes. And so you find that these five elements are absolutely essential, and you can't get along without any one of them.

For instance, did you ever have, can you have a salesman, the goods, the money and the sale without the customer? Certainly not. Can you have the customer, the goods, the money and the sale without the salesman? Certainly not. It is impossible. Can you have the salesman, the customer, the goods and the sale without the money, or its equivalent? Not today. Did you

**All Vocations Are
"In Business"**

**The Minister
a Salesman,
Too**

**The Five
Elements
of a Sale**

ever have the customer, the salesman, the goods and the money without the sale? (Laughter). Well now, Gentlemen of this professional and technical convention, why is that? Now let me show you just one or two reasons. Certainly it is not the customer's fault, because it does not matter what the type and what the temperament and what the mood and what the environment now of your customer is, when you have studied those four—that is, all four things—you have got your man. I repeat it again—it does not matter what the type, what the temperament, what the mood and what the present environment of your customer is, when you have studied those four things you have got your man. The salesman ought never to be taken by surprise. He should always have a front or flank movement to meet the opposition of his enemy. In other words, he ought to manage that element. The goods remain about the same, and so does the money. The fault must be with the fellow that manages these elements to produce the sale. He must handle them wrongly somewhere along the line, or else something would be done; a part sale would be made, if not a full sale, or an order for the future. I believe in selling the man for next year, if you can't sell him now. So those are the five, and you can't think of the sixth. I challenge you gentlemen to name any sixth element in salesmanship that is not included in the salesman, the customer, the goods, the money or the sale.

**Getting the
Salesman's
Value**

Now, if you study those five elements, surely you can see what a science we have. Let's just look at the salesman a bit. His value. How do you get his value? The unit, that is, you and I, divided by the supervision we need. The more I have to be watched in the thing you have me to do, the less value I am. As this supervision increases, the value of the fraction decreases. If a hundred times I have to be checked up, my value fails. Where does the supervision come from? I can't go into that. But we come down to the faculties we should find in the salesman. Here are the constructive ones—I rather like to call them that—and here are the rather destructive (indicating on the chart). Health! A man diseased—what can he sell? The fellow that can vocalize his mind, the man of good judgment, the man of tact! Tact is a great thing, wonderfully constructive in salesmanship. A man in New York has written a book on salesmanship, and it is all tact. He says it is simply tact. Well, it is more than that; but tact is a great thing. What is tact? I have read his book, and

I can't tell what tact is; now I can't tell. I have often asked fellow salesmen, when we would be smoking cigars together in the sleeping cars; I ask: What is tact? This is what they usually say: Tact is diplomacy; and they jump from the tip of that word to the tip of this (illustrating upon his spreaded fingers). I say, all right; but they haven't got anywhere; and I say: What is diplomacy? And they say diplomacy is shrewdness. I say: What is shrewdness? And they say shrewdness is tact, and they get right back whence they started from. Many times a bright man thinks he is defining a thing by merely putting another word in its place. *Definis* is to define the parts. What are the parts of tact? Then you will see what it is. It is four rights in a row. If you say the right thing to the right person at the right time in the right way, that is tact. But if you say the right thing to the right person at the right time in the wrong way, that spoils it. If you say the right thing to the right person in the right way at the wrong time, that spoils it, or if you say the right thing to the wrong person in the right way at the right time, that spoils it, too; and if you say the wrong thing to the right person at the right time and in the right way, that spoils the whole business. But if you do say the right thing to the right person at the right time in the right way, believe me, something will move in your direction.

**The Elusive
Definition
of Tact**

Thompson got married, and Smith sent him a wedding present; and two weeks afterward Smith meets Jones and says:

"Jones, do you know, Thompson don't speak to me?"

He says: "Yes, I don't understand it."

Jones said: "Did you send Thompson a wedding present?"

Smith says: "Yes, I did; a fine, vellum-bound book."

"What book did you send him?"

"Paradise Lost." (Laughter).

**The Right
Thing at the
Wrong Time**

Now that is where you say the right thing to the right person in the right way, but at the wrong time.

Now, you take indigestion, for instance. Suppose a salesman has indigestion. Now he is liable to be irritable over little things, and say little stabs unconsciously; and suppose the customer has indigestion, too. Then there is nothing doing. You might as well both go to the doctor and quit for awhile until you are feeling a little better. So you see you can go into the salesman with considerable depth.

**What a School
of Salesman-
ship Should
Do**

Now, what should a school of salesmanship do? If a man is short on memory, then we should give him exercises to strengthen his memory. If he is short on imagination, get the imagination limbered up through playing with the babies—and I say to you retail dealers, and to the wholesalers and salesmen, so that you can get it across to the man that you instruct, that women are going to be more and more customers of the retail dealer. We are not going to have lumber yards; we are going to have lumber stores, and the women will come in there and see lumber in a way she never saw before.

**No Book Tells
the Story
of Lumber**

Then I might take up the goods; and what an enormous field that is! I have written thirty-two textbooks on merchandise. I have written one on shoes, for instance, and that book contains all the points known about shoes. What is known can be found out by research; and the man that goes through that book from cover to cover, 600 pages, he has obtained the sum-total of human knowledge up to date on shoes, and he knows his goods and becomes enthusiastic on them. I don't know one book that contains the story of lumber. The story of lumber is a marvelous story, stretching down through history, connected with the palaces of the powerful as well as the hovels of the poor; and the story of lumber, if that were written as it might be, with illustrations, would be one of the most interesting of books. I have books in my library on the various woods; yes, and it is exceedingly interesting; and the beauty and utility of these things is something I could become enthusiastic over. I would like to have time to write such a book as that. I love lumber as it stands in the forest primeval, and after the work of art of some genius puts it where it ought to be put, to fit in with some things to produce the unity from which we live. It is great to have something to become enthusiastic over. It is marvelous to me that salesmen who live by selling anything don't see that the essential thing in salesmanship is not the salesman, neither is it the customer, but it is the goods. It is the goods that we talk about; and if the salesman could stick himself out of sight, and make the customer see the goods, he is the finest of salesmen, just as the preacher in the pulpit, if he holds up the cross and makes his listeners forget the preachers, they say he is a fine preacher. He hides himself behind the goods. I know a girl up here at Galesburg who became enthusiastic over a can of beans. One day a man, well dressed and prosperous looking, came in and asked

**The Goods
the Essential
Thing in
Salesmanship**

for a can of beans. If she had known what we know when we study type, she would have handed him out the highest and best brand she had. But she pulled out a 10-cent can of beans. He said: "Is that the best you have?" She said: "No, we have a can for 15 cents." He asked: "Is that the best you have?" And she said: "No, we have a can for 20 cents." He said: "They are the same size, made by the same firm. What is the difference in these three cans?" She said: "I really don't know. We haven't used the 15 and 20-cent cans, but only the 10-cent." And of course he bought the 10-cent variety and left. And the manager overheard it, and came over to Nellie and said: "If you don't know the difference, I will show you now." And they opened the three cans and found that the 10-cent can was full of beans, but they were small and hard; the 15-cent can was full of beans, and they were larger and better looking; and the 20-cent can was full of fat, tender beans. She made a board covered with blue plush, and she made little pockets in there and put these fat beans in there; and she would talk about how fat and buttery they were; how you could feel them sliding down your throat, and you could see her sales mount up. Why? Because she got to the center of things.

**A Lesson
in Beans**

But, my friends, I want to take up the customer. Advertising is practically on the level today. One man advertises pretty nearly as good as another; there is very little difference about it. But I want to tell you now where the difference is. It is in the customer. In your experience you have found that you can't sell Jones the way you sell Smith. You are the same, the goods are the same, the system is the same; what is the difference? The customer. The customer is this variable element that makes one sale differ from another sale in glory. What makes the difference? Why, the difference in the customer and his environment. Now, you and I are dealing with one human being—say three in the party. If we can get a line on this man, the line of least resistance to his mind and heart, we will get in there quicker than the fellow that goes along any old road to get into those citadels and capture them. This thing of reading human nature is an old art, but it has been a false art up to today. It seemed to be so easy to get a line on the other fellow that the ancients resorted to many ingenious methods to read human nature, but of all things it is the hardest to read. Men talked of phrenology—the contour of the bumps of the brain—that they could by

**The Problem
of the
Customer**

those things get a line on what kind of dope was inside of there. But phrenology doesn't amount to a hill of beans. You will waste time in studying any phrenology. Miss Fowler, a daughter of the great scientist, came over to Philadelphia. She is probably the greatest living phrenologist. I borrowed a straw hat from a porter, parted my hair and plastered it down on my head. She had six or eight up there, and finally got around to me. Now, I have a gutter right there in my head (indicating). She said: "This gentleman has a poor memory." Memory is supposed to be located right in there (indicating); and I had a poor memory. Why, my friends, I am long on memory. William James of Harvard said my memory was monstrous. Albert Gates said there was something superlative about it. Once in a trip through Illinois I was asked for a list of my lectures, and I wrote them down, and I found I had forty-seven; and I haven't a note. I can talk for a month, day and night, without stopping and without looking at anything (laughter); and she said I had a poor memory. Then she got up here (indicating) and examined that awhile; and there is another gutter right in there; and she said: "This gentleman has little faith and little spirituality." If she meant faith in my fellow human beings, she was wrong there, because three times in my life I have lost everything I had, and I think that is going some. (Laughter). And if she means that I don't believe in God Almighty, she was off, because I do. I am simply an orthodox believer, and I believe those things. Phrenology won't do. But listen: Even if phrenology were scientific, it would be taught in the university here, and in Philadelphia and everywhere; but there is not a chair in all the world that is teaching phrenology. Don't you suppose that ought to damn it? And even if it were scientific it would not help us in salesmanship. Why? Do you suppose a customer would allow us to manipulate his head? (Laughter).

And then they refer us to physiognomy, to give us a line on the other fellow. Now that is the face. They say you have got to begin with the nose, and the length and breadth and depth of this here (indicating) will give you the first line; but that is modified, they say, by the other features of the face, and then you must go down and see what the lips have to say and from there to the chin and then to the jaws, and that will modify your judgment; and then begin again with the eyes and go back to

**Phrenology
an Empty
"Science"**

**No Time for
Facial
Analysis**

the ears and the length and breadth of the head, and then size up your man. Why, by that time he would be gone.

Now, my friends, when I first met Judge Chetlain of the Cook County Court his forehead fell right back from his eyes, and I said to a friend: "Who is that escaped lunatic over there?" He said: "Who is that escaped lunatic? That is Judge Chetlain." And I had a half hour's talk with him and found he was perfectly human. Therefore, if you had read him by phrenology or physiognomy you would have gone away off. You, by sitting down there can't tell one single item of what I am, what I can do or what I know, by the size of my nose. God help some men if a big nose means strong character. There is nothing in it. The moving face? Oh! That is different. When I look this way (illustrating) you know I am pleased, and when I look this way (illustrating), look out. But you can't tell that from the size of my nose.

**Expression,
Not Physiognomy, Counts**

Then they talk of palmistry—the length and depth and relation of the lines of the hand. By these they will show you the character of the man, his merits and his failings and his virtues and his faults. But palmistry is absolutely a pseudo science. It is 50 per cent guesswork; it is not scientific. But suppose it were scientific. If it were scientific it would be taught in all the universities of the world, but it is not taught anywhere; so it has been damned as unscientific, and I am surprised that anybody would believe it would be of any help in sizing up the character of any fellow. But, even if it were true, do you suppose the customer would allow you to monkey with his palm—coming in to sell him lumber, and asking him for his hand? And suppose you were dickering with a woman? (Laughter).

**Palmistry
Involves
"Holding
Hands"**

And astrology. Oh, yes! Give me the year and day and month and hour of your birth and I will calculate your horoscope and tell you what kind of man you are. But astrology has been upset in a thousand forms by astronomy. It is psuedo; nothing to it at all. But suppose it were true? Would your customer give you the year and month and day and hour of his birth, and then you run to your book on horoscopes, and then come back and deal with him? No, no. And what woman would give you her age? (Laughter).

**Some Draw-
backs of
Astrology**

I want to say to you now that there is no science as yet recognized by a scientific body—and I belong to a dozen of them—

recognized by the national or international scientific bodies as final, or really as a start. Well, there has been a start, and I want to give you that start. The fact is, I am working with you. We have some matters that I want to lay before you now, and ask you whether you have found these to be true.

Now then, I take it that if I want to influence a man my way, and I have him alone, talking to him alone—I don't care how many people hear me—but if I am talking with him alone, I always begin with the known, and work to the unknown. I go from the near to the remote. That is the inductive method of science; that is the method that all science works upon today. Why shouldn't we work upon the same principle? So I begin, first, with the clothes, and in a second you can size up the man; and what you look to is whether he is dressed peculiarly, in some way different from the average man of that section or of that age, the men living around him. If he is, that peculiar thing is your cue by which you will quickly get into his confidence and into his good graces, by which he will like you and have confidence in your judgment.

Now I will give you some illustrations. If a man is dressed ordinarily, just as the rest of us, you have to approach him accordingly. Then I would approach him just as I would want him to approach me, in a common sense, level headed way. But let me give you an illustration. Up in Ohio in a certain town they had eighteen salesmen, and every Saturday afternoon we met for a campaign in salesmanship. They had eighteen salesmen; and as they came in I sized them up to see if I saw any peculiar type; and they came in all dressed as every other business man, except one man, and I saw that his coat had four buttons instead of three; he had a standing collar, instead of a lay-down collar, although he had just come in from the road. He had the sweetest little cravat tucked away there snugly, and as white as the driven snow; and I saw he was dressed spick and span. I knew there was a stickler for details, a splitter of hairs, a man that would make a mountain out of a molehill or an elephant out of a mouse. Well, I started in. I said: "Gentlemen, if there is any statement I make you don't like, just get up and shake your finger at me. I am a tough skinned man." And this man was the first up. I expected him to be the first up. He said: "Doctor, may I ask a question?" I said: "Certainly." He said: "Do you mean, when working our second orders from

**A Real Start
in Science**

**Reading a
Man's Character
By His
Dress**

customers we should ask them if they were satisfied with the order they gave us before?" I said: "Certainly; I would do that." He said: "I would not. You just give them a chance to complain." I said: "If they don't complain to your face they will to your firm or to your competitors. I would very much rather have the customer come to me and tell me what the trouble was then to make complaints to my firm or to my competitors." The man was content; and I went on for eighteen or twenty minutes, and he got up again, and he said: "May I ask you a question?" I said "Certainly," and he came with that same old question. I felt I ought to wipe the floor up with him, and I just called him—told him what his character was—and he was that kind of man. He chose that thing. You could tell the state of mind he was in by the sign he left on the outside.

I went to East Aurora to lecture for Elbert Hubbard. He came down to the station to meet me. He said: "I am glad you are here. We need some instruction in salesmanship." I said: "I am glad to be here. You are different from the rest of us. You are hunting right ideas. Do you know how I can tell you are different from the rest of us?" He said: "From my writings?" I said: "No, not from your writings, but from your indescribable necktie and the way you wear your hair." He said: "Come up and dig yourself out of the dirt you are in and I will see what kind of a chap you are."

**Sizing Up
Elbert
Hubbard**

But I wasn't flattering him. I was telling him the truth. A man who dresses like he does wants to be different from the rest. And it wasn't flattery, it wasn't praise, it wasn't criticism. I was simply stating a fact, and he was proud of it. I was approaching my man and getting his confidence in the first crack out of the box.

Why, you can get something by the way a man wears his hat when you approach him (placing a straw hat level on his head). If a man wears his hat like that, on a level, you can take it for granted that he is a level headed, ordinary man of common sense, like you and I are. That man I would approach with a straight business proposition and get it across as soon as I can so that in his common sense he can sit in judgment upon it. If a man wears his hat like that (illustrating, on the back of his head), he is a heart man; he is a man of heart, and approachable. "Walk in, ladies; walk right up!" He is a heart man. And I would go up to him and slap him on the back. That is

**Significance
in the Angle
of a Hat**

the sign of a hale fellow well met. I would go up and slap him on the back and say: "I am mighty glad to see you, because I have got a fine proposition," and be cordial with him. You can be as close as you want to. But suppose a man wears his hat like that (illustrating, pulled forward over his forehead). Don't you slap that fellow on the back! (Laughter). You will probably get a punch in the nose if you do. That is the man that is living in the shadows; that is, he likes to be unseen, and watch us. He likes to get a line on the rest of us. He is a cautious man. He is cautious. And if I were to approach that fellow the first thing I would say would be this: "Mr. Jamison, being a prudent man and a man of foresight, I am flattered to make the proposition I have right here now to you, because I have such a fine proposition I know you will recognize it. Now then, let's read it and sign it up." He feels that he is recognized and appreciated. He thinks that you are a man of good judgment—and you are. He thinks you understand him, because he understands himself—and you do. And therefore his confidence goes out, the very first thing you say, and you are ready for the next proposition. Now suppose a man wears his hat like that (illustrating, on the side of his head). It doesn't matter which side. That is a dude; and God only knows how to handle a dude. But if your customer wears his hat like that, he needs a little flattery. He thinks he is just it. He can mash any woman on the front street he lays his eyes on. And so I would say: "Mr. Jamison, for a man of your type, you want this quality of lumber, not that. You want this part of my proposition, not that," and get him right up to feeling big, as he wants to feel. I have to judge of the customer as he is, instead of trying to make him what I think he ought to be. Take him just as he is. So there are three or four different approaches. The first crack out of the box is the approach, and the salesman must make the approach. If the customer does, then, of course, you are off on the question the customer asks, and haven't time to make your own approach, but can make it later.

**No Rules for
Handling a
Dude**

**Reading the
Tones of
Voice**

But now we go a little deeper, and I will show you a line on how to handle your man. The tones of voice. Now when it comes to the tones of voice, you have one of the secrets of mind reading. Some people, when they hear me talk to them confidentially, surprise me. They say: "You are feeling so-and-so"—and it is true. The way I was feeling when I said those

words didn't seem to fit the words, but they were telling me how I felt. In other words, they were reading my heart. How is it done? By emphasis. Now I would like you gentlemen, in your homes, in your club, in your social circles, to train your ear to hear emphasis, and when you hear it, begin to practice. Say "Bill, you said so-and-so, but you feel this way," and tell Bill, your private friend, how he feels, and you will be surprised how near you will hit it by the way Bill emphasizes his words; for emphasis goes where the feeling is hottest. For instance, I always give a man three chances to buy. Of course, if he buys the first time he doesn't get the second or third. If he fails the first, I give him a second or a third. Suppose I give him my first selling talk. I quit. I come to the silent moment in salesmanship, because I want to see how Jamison feels before I take my second step. It may be a line or two, or a paragraph. I quit. Now, he has got to do something, or say something. Now suppose he says it this way: "Your *proposition* sounds good, my friend." Now, is he ready to buy? Is he ready to put his name on the dotted line? No, sir, no, sir. He is a thousand miles off from the selling point. Do you see, the emphasis is in the crest of that curve; it is on the word "proposition." "Your *proposition* sounds——" Now, the words sound as though he is ready to buy; but the feeling? What is his feeling? He feels that I have another proposition; that if he hangs on long enough I will make it to him; I will reduce the price, or I will throw in something. In other words, he feels that he has not got my rock bottom yet, and that other proposition is in his mind when he emphasizes the word "proposition." Now how would I answer that? I would not answer his words; I would answer his feeling. I would say: "Mr. Jamison, this is the only proposition I have, because I can't modify it in the least. I am giving you the highest value for the money that it is possible to give today." Now, that will answer his objection, but not answer his words. He says to me: "Your *proposition* sounds good, Mr. Krebs," and I come back: "This is the only proposition we have; the finest we can get up today." And then you quit that question which you have both solved, for you are getting together. But suppose he says: "Your proposition *sounds* good, Mr. Krebs," with the emphasis on "sounds," and I catch it. I am watching the next move of my enemy. Now is he ready to buy? No, no. What is his feeling? His words indicate he is. Why, he feels that it only sounds good;

Learning to
Interpret
Emphasis

The Accent
That Means
"Sign Here"

that I have been giving him hot air; that the reality is something different from what I said it is. In other words, that I haven't told him the exact truth. I come back and say: "Mr. Jamison, what I have said I won't take back. I have not overrated, and I don't think I have underrated this proposition. It is just as real as words can describe reality." Then I have answered his feeling. But suppose he says: "Your proposition sounds *good*, Mr. Krebs." I say, "All right. Just put your name on the dotted line." (Laughter). In other words, you know when you are at the psychological moment, and what to do when the psychological moment comes. Now it doesn't matter how big a nose Jamison has got, what the color of his eyes, or how he parts his hair. You have the clew that he himself gives you, and you are simply, like an artist, taking advantage of it.

But now, my friends, I want to go into temperament. Let's go a little deeper. Now, when we come to the word "temperament," of all the silly things that have been written about temperament—it is ridiculous. Now I want to sum it all up as quickly as I can. I want to eliminate the false, and then I want to use three simple words, Anglo-Saxon words, and say to you that there are only three temperaments on earth; that is, all human beings, male and female, all go into three different classes. Temperament tells you not how to approach a sale, but how to conduct the sale. What are those three? The quick, the slow and the medium. Now doesn't that sound simple? But what do I mean? I might use other words here now, if you care to—the morbid, sanguine, melancholic, phlegmatic, nervous, and so on, and then those in between; but these are the main. If we have you in the laboratory we can measure the time of the nerves and tell you what class you belong to. It is just the quickness or the slowness with which the nerves make muscular motions and form ideas in the brain. Some have to take some time to form an idea and more time to express themselves, more time to make a motion. You can't tell the temperament I belong to; I belong to the quick. You can tell that a man belongs to the quick temperament when he walks into your office. He walks in rapidly, and asks you promptly for what he wants. He is the quick man. You take him out to show him the lumber in your yard, and he asks questions, and he asks them fast. That is the quick man. The slow man comes in in a deliberate manner. He will talk at about the rate I am speaking now (speaking slowly). I had to

The Study of
Temperament

put the brake on to do that. Stenographers tell me I talk 200 words a minute. You ask him to take a seat. He will sit down slowly, deliberately (illustrating). Adjust himself deliberately. And as I said, his words come out at about the rate that I am now addressing you (speaking very slowly). You can almost get his last word before he says it, because you are thinking a little ahead of him and know just what that last word is going to be. Now he is not a weak man. Slow does not mean weak. He may be a lightning calculator, as far as foresight is concerned, and prudence and thoroughness. It just means that his nerves move slowly. The medium is the man that is not one nor the other. Now, that is simple, and, gentlemen, that is all there is to temperament. The man is born with the nerves in that condition. Temperament is something he will carry with him all his life. The man will talk slow; he will move slow, at a certain rate.

**Make Your
Talk Fit the
Temperament**

But now, how do you handle him? Here is the cue: Always take the pace from the customer. Always take the pace from the customer. If you are handling a quick man, I would say to him: "Here, Mr. Jamison, are the inch pine boards that you are looking for. You notice the varying widths? They are very practically cut to subserve almost any purpose you have in mind." In other words, get the selling points, whatever they are, about that particular board, to him very fast.

**Take the Pace
of the Customer**

Now for a slow man I check myself. If a man talks slow to me I get a kind of feeling that he doesn't know his selling talk, he doesn't know what to say next, and I feel like saying: "Oh, you old slowpoke, get a hustle on." But if I start dealing with a slow man I would say (speaking very slowly): "Here, Mr. Jamison, these are the inch pine boards that you are looking for." I quit. (Pauses). I say, "You notice the varying widths? They are very practically cut to subserve almost any practical purpose you may have in mind. (Pauses). I would like you to notice, Mr. Jamison, the compactness of the fibre." Go slow. Now, if you go fast with a slow man you rush on to the X, Y, Z of the facts that are perfectly familiar to you, but he can't follow you, gentlemen. And you think you have got your knowledge across, but you haven't at all. He is way behind; and you only irritate him; you get on his nerves. You are a salesman, and want to do the business; but it is the manner that you handle him in. He doesn't know what is wrong with you, but he doesn't like to deal with you. If you have a fast man to deal with, don't

**A Slow Man
Resents Being
Hurried**

go slow. If you yourself are of a slow temperament, you practice. I would take a paragraph; I would write out my selling talk, of course, what I am going to say about that particular lumber, and then I would practice it, so that when I have a man with a quick temperament I can get it off fast—and sometimes I talk at the rate of 200 words a minute. That is what the stenographers tell me. If you have it so you can rattle it off it will please the quick man, because he understands it better. A slow man wants you to go slow, and he feels at home with you, and he likes you because he catches your idea. Now you try that. If you try to go fast with a slow temperament you will lose some sales. If you talk slow to a fast man, you may lose some sales. I talk fast to the fast and slow to the slow, and you can do it, too. Just remember it when you begin the sale, after the approach, and you begin to make the sale and get in the selling points on the goods. Take the pace that the customer has set.

Now when it comes to types I can only say a few words. If you can handle types you certainly will enjoy the art of selling. There are three things—thinking, feeling and willing; that is all a man's mind does; it thinks, feels and wills. To think is to compare two thoughts, to get a conclusion of their value. To feel is to hate or love, and to will is to decide to do; that is the executive idea. Now suppose a man is long on thought but short on will; that is the intellectual chap; that fellow loves to think, lives on thoughts. Suppose a man is short on thought but long on feeling; that is the man that loves to feel, to get his emotions stirred up. He likes a good case of hate, too. Then the man of will; he is the executive man, the commander.

Now I will show you how to spot those types. The one always present, unexceptional characteristic and sign of the intellectual man is the inclination of the head. He will never have his head, or very seldom, squarely on his shoulders. He stands with his head on the incline, usually right or left, a little bit, and usually forward, so (illustrating), because he, being intellectual, is balancing what you say to him in his own mind, and naturally your head, when you are balancing something, takes the position of balance; not square, but balanced. Now then you can mark that down as an index of the intellectual caliber. If it is a seated interview he probably has his eyes front, fixed on nothing; he is introspecting your statements; he is trying to see how true they are, whether you mean what you say or your data

**The Three
Types of
Men You
Deal With**

**Dealing With
the Intellectual
Type**

is true. He is watching you. His head is inclined. When he wants to refute a point, often, not always, he will lay his finger down, like that (illustrating), as though he is pointing to the very point on the palm of his hand. He will often stand with his head inclined that way, and a finger, or two fingers on his cheek, like that (illustrating). Now, you can get him by his words. He will say: "Well, Mr. Krebs, your proposition does not strike my judgment. I can't make up my mind." He will use the words "judgment" and "mind," terms that apply, not to the heart, not to the will, but to the intellect, to the reasoning. "Mind" and "judgment." He loves to reason, and he will use those phrases; hence you are sure you are dealing with the intellectual man. Now then, you have got the intellectual man. You can spot him easily by the way he stands and his words. The heart man will say: "I don't feel right about that." The other man will say: "That does not strike my judgment," or "I can't make up my mind." The heart man will use terms of feeling and heart. When you call on the intellectual man be sure to give him the analysis of your lumber; show him its durability; show him the purpose, and that it will meet that purpose; go into the analysis. He wants to think. He does not fail to see the beauty of it, but he thinks that is sentimentality; he will think that is a sort of effeminacy, and he does not want that. So you give him the analysis of your wood.

Now the heart man has one characteristic by which you can always place the heart man, and that is the motion of approach. If, for instance, it is a seated interview, and you are seated over there and Mr. Jamison is here—he is the heart man. He will move away from the back of his chair; he will move forward in order to get close to you. His head is square on his shoulders and his hands on his knees. Don't take that attitude for agreement with your proposition or that he wants to buy, but he wants to give you a square deal. He will often move his chair toward you. He will be open and frank. The motion of approach is always the sign of a man of heart; he will always try to get closer. When it is a standing interview he will sometimes come up so close as to blow his breath in your face; and I do hate that; but he does it out of the goodness of his heart. How do you handle him? Slap him on the shoulder and pat him on the back. And he will use phrases like "I don't feel quite right about that. I wonder how my wife would like that." He is thinking of the

**How to Know
the "Heart"
Man**

pleasure of it; he is thinking of the beauty of the thing. And we want to call his attention to the esthetics of the lumber, the beauty of it. If the building is built of this particular lumber it will have an air of refinement; it will please the wife; it will please the boys at the club, if it is built out of this. He doesn't want analyses. He doesn't care so much how long that wood will last; not so much; throw it in, but he loves that other thing.

A man was selling furniture, and a woman came in to buy a set of parlor furniture, and he gave her the talk for the intellectual type. He showed how strong the sutures were, how long the wood would last; he gave her the analysis, the head type. She didn't buy. Women are of the emotional type. Women are long on soul. A woman will jump to a conclusion by intuition where a man will have to reason himself up and sit beside her and say: "Yes, dear, you are right"—and she knew it long before. So he decided when he saw her passing from the store, to call her back. And he said: "Madam, look at the symphony of the lines of that chair. It was an artist that brought out those lines." And he came up to it as though it were a tender thing, and he laid his hand on it like he was petting it; and he said: "Do you know, that is Sixteenth century furniture? Madam, stand back!. Just get the air of it. Just get the spirit. That will bring an air of education into your home that will be an education to your children; that will be a fine work of art." And she bought it. She was long on art, to the extent of \$160.

Now, my friends, when it comes to the will type, the will type of fellow will swell out; they kind of swell out; they don't stand as though they were at ease, but solidly. They kind of swell out, and they get up a sonorous way with their voices. They kind of impress you and kind of domineer over you, and swell out over you as though they wanted to overawe you and push you along. When they make a gesture they point like that (illustrating). When the intellectual man points, he points like that (illustrating). The purely intellectual type is selfish; they lack heart. The heart man will point like that (illustrating), but the commander will point like that (illustrating). He swells out before you and stands very firm. He is the boss. Now then, gentlemen, how are you going to handle the will type? Well, there is only one thing to do, for we haven't any of the elements of the other two, for they are short on heart, and you can't appeal to esthetics there. He will think that is effeminacy. He can't

Using "Head"
Arguments
with a "Heart"
Type

Handling the
"Will" Type

analyze, because he hasn't brains enough. So what are you going to do? Well, you make a proposition, and he will say: "I know that is not so." You come back and say: "I know it is so." Meet his one statement with another. Those fellows you have to knock down before you can pick them up. And they love that thing. They think you are a man of their own type, a man of strong will, and they love the thing. If you come in in a gentlemanly way they think you are a sissy and they won't take any stock in you. You can't reach them through their sensibilities, and you can't reason with them, so you simply have to take them by the neck and simply domineer over them, assertion for assertion and strength for strength.

F. O. Bailey called on a firm in New York. He called two years in succession. The first time he sent in his card and Mr. Jamison sent out and returned Bailey's card by a negro servant, and said: "We are too busy to see you today." Bailey believed that the first year and so he didn't push himself in. The second year that same thing happened; after waiting thirty minutes that was the word that was sent out by the proprietor. Now Bailey began to reason what kind of a type sat in that office. He said: "No gentleman would treat a representative of the firm I represent like that—me coming here two years and having me sit here half an hour, and wasting my time; no gentleman would treat another gentleman like that; so," he said, "he is not the heart man. He is not the reasoning chap, either. That fellow does not reason much or he would reason that he ought to see the products of the firm I represent, even if only to look at them." So Bailey decided to treat him like he would treat the will type. So here is what happened. Bailey sent in his card again, and at the lower left-hand corner was the word "Important." The man took it in but came back and said: "Mr. Jamison is too busy to see you." Then he threw away his card and wrote: "Less than a minute by the watch. Ten dollars a second if I stay longer." The negro was afraid to go in again, but Bailey greased the way with half a dollar, and so he slipped in, and came out and said: "All right, Mr. Bailey, you can see Mr. Jamison." Imagine Jamison seated at his desk. Bailey kept his hat on, opened up his coat and walked in like that (illustrating). Jamison said: "Well, what do you want?" Bailey said—didn't say "Mr. Jamison"—"Well," he says, "Jamison I just wanted to see you. I have been here two years. You know what our firm

**Bailey Found
the Way—
After Two
Years**

is, and bigger firms than yours give me twenty to thirty minutes to look into our product. Two years you have been so busy that you couldn't take time to see me. You are busier than the President of the United States, busier than God Almighty. You are a curiosity, and I wanted to have a look at the curiosity. This is less than a minute. Good-bye." He got to the door. He never got out. Jamison liked that. Jamison thought that was great. He said: "Bailey, come back." Of course Bailey went back, and then they got together, and Bailey took his order. And so you treat the different types.

Now, gentlemen, I have gone nearly on the roof, and it is late, and I want to conclude with just one thought. I would feel that I were not true to you or me in our work if I didn't say just this word. This world war is an enormous affair. It is getting to be a world war. The gigantic proportions of it are such that people can't even realize what is going on in Europe. Why, the battle of Waterloo had only 200,000 on each side, and there were 60,000 casualties. It was a great battle. But the battle fought six months ago on French soil had 600,000 on both sides, and yet we read about that as a skirmish in our morning newspapers. On the line of the Eastern front, 900 miles, there are 3,500,000 men; on the line of the West, 700 miles, 3,000,000 in it; and the line to the South has a million men in it. I don't see how those men get the military blue print. Imagine a campaign like that, and it makes all the battles of the past look like 30 cents, or all our honor and love for what those battles have won us. The proportions of it have been double compounded. My mother was French—La Fait was the name. My father was German, and I don't know how I live at peace with myself these days. I am not pro-German, although I have lots of love for the Germans; I am not pro-French, although I have lots of love for the French; I am not pro-English, although I have lots of love for the English; I am not pro-Irish and I am not pro-Turk, but I am pro-American. (Prolonged applause). I am glad to see that splendid outburst—not for me, but for the principles I am standing for. Now, my friends, what have you and I got to do with it when we don't go to war, don't shoulder the musket?—for all of us ought to have this answer to what can we do. We can do a tremendous thing. When it is time for peace to return, to waken up and push it to the front; that is our function; and you say: "How shall I get at it?" Well, this way: Six

His Attitude
Toward the
War—Pro-
American

years ago a man said to me: "Doctor, why is it we in America here feel that we are the particular pet of high heaven; that God Almighty has his hand with more love on the flag of the stars and stripes than any other? Why," he said, "take Persia. What is Persia today? Why Persia does not amount to that much (snapping his fingers) in the policies of the world. But at one time she was mistress of the world, three times the size of the United States." Why, gentlemen, do you realize that? Last February I made a jump from Seattle, in Washington, to Tampa, Florida—a straight jump, the longest trip I ever made on land. Persia was three times the size of that; and Persia was so old and rich in national life and history that it makes the United States, he said, look like an infant and a pauper by comparison; and he said Persia had riches that we do not possess today; Persia could move rocks 150 miles that we can't move 150 inches. Persia had colors that haven't faded, and we don't even know the chemistry of that thing. There they are, as bright as the colors on that jar (indicating), and yet they were made thousands of years before Christ. And he said, "Where is that vast, powerful old nation of antiquity? In the sands of oblivion. And what brought her there? The old, old story. And it is time for us to see. Goodness alive! Does God Almighty mean to treat us like that? It is simply the old economic struggle, the internal struggle between the rich and the poor, saturating every ramification of society; in other words, the rich get richer and the poor get poorer. It saturated society until caste was established, not only in society, but by law; and then when there was a little pressure from the outside, Indian China, it fell, by reason of the internal weakness and rottenness, and great was the crash thereof." "Now," my friend said, "what do we see forming already in this young government of ours? The same process of disease, disintegration, decay and death. On one side we have millionaires, multi-millionaires, trusts and monopolies; on the other side, trade unions confronting all the different kinds of business, and many of them highly organized. And it is ridiculous for us to cry 'Peace, Peace, Peace' to high heaven, when there is no peace; and if this breach grows wider right along, when there is a little pressure on the outside on the walls of our government they will crash and fall, just as surely as the walls of our honored and loved forebears fell before us. Why, then, do we sit here and flatter our hearts that we are the particular pet of high heaven

**America the
"Pet of High
Heaven"**

**The Lesson
in Persia's Fall**

**Endurance of
Power in
Commercial
Greatness**

and think that we are the Benjamin of the nations of history, God's national favorites? Why do we feel that?" When he spoke to me thus, I felt there was a missing link in the chain of his logic, a lost chord in the music of his thought, and I tried to think of that missing link and to hear that lost chord, but I couldn't do it, and I bowed my head and said nothing; for the facts as he stated them were all historically correct. But I got my answer from a source that I never expected to get it. I know it didn't come from man or men. Whether it came from God Almighty, I will let you, kind friends, decide. But four or five months after I stood for the first time before Niagara, and it was a beautiful moonlight night when I first saw that majestic phenomena of nature tumbling there; and as I heard that voice that night, the same voice that had been sounding on and on through the centuries of the past and will sound on and on and on through the centuries and the centuries and the lengthening centuries to come, passing, but never past, going but never gone, falling, but never fallen, oh! what a mighty, moving monument of permanency and power, sufficient to move the machinery of the world by transmuted energy, and do it, too, in curves of beauty and lines of grace; and as I stood there, suddenly a voice seemed to drop down from the stars above, and up from the long lines of illustrious statesmen and patriots through the vista of the centuries, and out from the churches and schools and marts and mansions and farms and factories, and in that voice mingled the voice of the American past, the voice of the American present and the voice of the American future. Suddenly the waters of Niagara vanished, and in its place was the Niagara of industry, a government-encouraged industry, of individually loved industry, the thing that was absent in the days of Persia to which my friend referred, and it was the missing link in the chain of his logic. For in those days, to be a noble man, or occupy a place of respect and honor in organized society, you had to gain or achieve a high place in the army; the captain or general was the nobleman; but the salesman, the merchant, the tradesman, the business man, as we understand him today, and as you and I are, they were pariahs in the days of Persia. They were itinerant salesmen, going around with packs on their backs, and compelled to pay taxes to a government that in their heart of hearts they hated. And yet it is just that man, the business man, that is in the saddle of civilization today with the reins in his hand. Why do I say that? Because Congress devotes more attention

and more hours to the problems of our business men, to the exchange of merchandise, than it does to all religion, all education and all art combined. Why? Because the thing we are doing lies at the basis of the whole gigantic pyramid of the social structure. Knowledge of the things made of lumber, shoes, and everything we exchange, lies at the basis of the church and the school. As business wanes the schools wither. It is the business man that endows schools and colleges and universities and sustains the preachers and the churches; it is the whole thing; and it is our function to distribute. That is the reason anything that interferes with trade distribution includes the business men and the teacher and the preacher; and that is the reason we ought to appreciate him.

**Appreciating
the Business
Man**

I want to tell you, there is going to come an age of reconstruction. We will repair the destitution of Europe. A man said to me, "All these factories will close down after the war and then we will have a period of depression." Not on your life! What will happen? We will hear the call of the wild. There will be such a demand for lumber that we will see more than I saw a few days ago at Pensacola. I saw four scows loaded with lumber and drawn by a tug, intended for war purposes. But then they will be loaded for the purposes of peace, and not for the destruction of life, to meet the demand for things that were used in peace, to rebuild everything along the line; and whilst ammunition factories are now making ammunition, they will be making something else; and we will have an age of prosperity that will demand the pluck and grit and courage of the best of us. And that is the thing that will save us. So, when I heard the three voices mingled, and saw that vision—the voice of the American past, the voice of the American present and the voice of the American future, here is what they said in answer to my friend's question:

"As long as the song of Industry is heard,
As long as its thunders roll,
As long as its music
Nor beast nor bird,
But man and God control;
So long as will the flag of Liberty's fane
Float over this land unfurled,
So long will its stars and stripes contain
Power to move the world."

Co-operation With Distributors *and* Consumers

By M. B. Nelson

General Sales Agent, Long-Bell Lumber Co.
Kansas City, Mo.

There is no other manufactured commodity, I believe, produced anywhere in the world to which as little thought and study is given to the merits of its uses or promotion by the manufacturers and distributors as is given to lumber, especially Yellow Pine. What does the average lumberman engaged in the manufacture or sale of Yellow Pine know about its merits? The measure of success in any line of business or industry is the knowledge applied by those interested. A comparison of what the average lumberman actually knows about the merits of lumber with the knowledge of those interested in most any other line of business, and a comparison of the energy that is expended by the lumbermen in promoting an increase in the consumption of lumber products, especially Yellow Pine, is all that is necessary to consider to realize our deficiencies.

I consider the sales organization more to blame than any other department of the business. The average young man who starts out to learn the lumber business spends a short period at the mills, in the retail yard or in a lumber office somewhere; familiarizes himself with lumber terms and grades and the rates of freight so he can quote on whatever item of stock is listed on the price sheet without making too many mistakes, and when this has been accomplished, feels that he has graduated and all that is then needed to make him a full-fledged lumber salesman is expense money, an order book and a vocabulary that enables him to make convincing argument out of information picked up from the retailers about low prices which are being made by his competitors. Apparently no thought is ever given to doing something that will increase the use of lumber in his territory. The average sales office measures the worth of a salesman by the number of orders he sends in. Some few measure his worth by the price or value of his orders as compared with the general run of business they receive.

In the most successful industries which have, within a quarter of a century, introduced and created a demand for their products, not only in the United States but throughout the entire world, they have first educated their salesmen as to the merits of what they have for sale, and have spent a great deal of time and money becoming familiar with the arguments in opposition to the use of their products and securing arguments to combat or overcome such opposition. This has been most effectually accomplished through systematic organization where the manufacture has been by one interest or where but a small number have been interested.

I think the reason the lumbermen have neglected this very important feature is because of the large number interested in the manufacture and distribution of the product, and, further, the fact that the benefits resulting from any energy expended in creating a new demand or combatting the inroads of substitutes accrue to the industry as a whole and in but slight degree to the individual. It is but human to expend energy only where the greatest individual results can be accomplished. Lack of the proper organization all the way down the line is another and probably the greatest cause of our neglect, but we now have in our business a "live" Association, equipped with ample machinery to secure results if we will only make the proper use of it. But the machinery will not grind out results or success for the lumbermen unless it has the support of all branches and is kept oiled and in operation.

Now let us see how we can use our Association to improve our business.

First, let us educate ourselves as to the true merits of our product in its different uses, and as to the uses wherein it is equal to or superior to any other known material, by informing ourselves in so far as possible through the limited store of literature that the Association has accumulated and from any other available sources; let us find out how long Yellow Pine sap will last when exposed to the elements; what causes decay; what known treatments will prevent decay, and what the cost of the same is; how long heart pine will last when exposed to the elements, also as compared with other woods; let us familiarize ourselves with the different old buildings, pictures of which the Association has published, and those of us covering territory where additional information of this kind can be obtained, secure photographs and other information which might be interesting to the manufactur-

**Learn to
Know Our
Product**

ers and consumers of lumber, and furnish this to our general offices so that they, in turn, may send it to the Association; let us seek information from whatever source we can, and if it is not in stock in the storehouse of the Association, get it there without delay so it can be distributed for the benefit of the subscribers and the entire lumber industry; let us investigate at every opportunity the practices and methods pursued by the retailers, distributors and consumers of our product in every section, and if their policies are along lines which will not promote the general interest of the lumber business, take the matter up with the retailers, buyers or distributors and make sure they understand that they are doing our industry an injustice. In addition to this, report the information to our general offices that they, in turn, may send it to the office of the Association and that the committees in charge of the work may know what is going on and seek to remedy it.

**Teach Others
the Merits
of Wood**

After we have gained a better knowledge ourselves of lumber with respect to its real merits and uses, let us take advantage of every opportunity to disseminate information to the retail distributor, engineer, architect and consumer by constant, systematic effort until we have educated everybody who has anything to do with the handling of Yellow Pine to a point where they will be able to defend its merits and prevent the unscrupulous substitutes from entering our ranks and defrauding the public to the detriment of our business. I do not mean by this that we should not give due consideration to the merit of any substitute, or that we should recommend the use of lumber where we know it is not equal to something else, because I figure such practice would result to our detriment. Our progress must be based upon merit, otherwise our efforts will eventually fail.

Up to this time only a limited supply of educational information is available with regard to the merits of our product, and it is therefore very important that effort be made by all of us to secure further necessary information as rapidly as possible.

Let the salesmen in the different sections of the country organize in small groups and meet as often as convenient, and devise means whereby the retailer, architect, engineer and large consumers of lumber can be properly informed. This can be accomplished by the salesman devoting his spare time with his customer in discussing the subject, in seeing that the suggestions and advertising matter sent out by the Association are received and dis-

tributed by the retailer in such a manner as will get results, in suggesting to the retailer the many uses which could be made of Yellow Pine in his territory if the proper effort were put forth by him, and that his business would grow as a result. Not only that, but go out with him to the prospective consumer and see that the proper arguments are presented in behalf of the Yellow Pine interest. If he encounters any questions or problems which he cannot answer satisfactorily, let him report the facts to his general office so that they may take it up with the Association.

In the cities and large towns where the consumption of lumber is governed largely by the architect, engineer or builders, I would suggest that the salesmen organize with the retail dealers and call a general meeting of all architects, large contractors, engineers and builders in that particular section; invite them to dinner some Saturday evening, and arrange for a speaker from the Association to address them relative to our product. And be sure the speaker is requested to give strong emphasis to those points which are considered most important to be driven home. Get acquainted with the master mechanic or master car builder in charge of any car shops in your territory; investigate, and make sure that they know all you do about Yellow Pine in so far as it affects their line of work. Keep in touch with every kind of construction contemplated in your territory; go to the architect, engineer or builder with your customer and try to get as much Yellow Pine used in the construction work throughout the building as the merit of the wood will justify. You will find that if the architects and engineers are properly approached, they will be more than willing to give consideration to most anything you have to present. It goes without saying, however, that all technical men of this nature are very difficult of approach and are more or less prejudiced in their views, and unless the proper diplomacy is used your efforts will not meet with success.

**Helping the
Consumer
to Choose**

Every salesman should be familiar with the building code of every city in his territory, and if there is anything in the code that is detrimental to the interest of the lumbermen, the salesmen located in that section should get together and organize for the purpose of seeing that the discrimination is corrected at once. If they should encounter any problems which they cannot handle, they should call on the Association, through their general offices, for help. We are losing out in many territories to substitutes because these promoters are organized and working along more intelligent

lines, not only taking advantage of but creating the opportunities. The consumption of our lumber is decreasing through the development of the substitutes, many of which have not the merit claimed. Keep close watch on every substitute being used for wood, and wherever they fail be sure you are on the job and secure the information and report it through your general office so that it can be passed to the Association and distributed. Have photographs made wherever it is possible.

Let us impress upon the retailers and consumers of Yellow Pine throughout the entire country that while the Association is organized and maintained by the subscribers, it is organized for the purpose of benefiting the retailers and consumers of lumber, and we want them to make use of it in any direction they think will be beneficial to the industry and profitable to themselves.

The object of the Association is to cause lumber to be used for every purpose for which it is as good or better than anything else; for it is their desire to see that the consumer gets the greatest value for the money expended for Yellow Pine. Let us get everybody interested in the Association and make sure that they know its object and purpose. Let the salesmen calling on the trade located in the small cities and towns, organize at central points and divide up the territory among them so that every town where there is a lumber yard will receive the proper attention and information; have the retailers get together with the contractors and carpenters, in the evening, and give them a lecture with regard to the objects and purposes of the Association and relative to the merits of Yellow Pine; show them how short lengths can be used to advantage. I think you will find the carpenters and contractors in the small towns very willing listeners, and all of the retailers, when they find you are working for their interest, will give you no trouble in securing a conference. If this matter is properly presented I think we should soon have the entire territory covered. Meetings of this character should, I think, be continued at least once every six months, because when once we get things going right there will be a lot of new things come up which we will want to transmit to the retailers, contractors and carpenters. To make it all the more attractive in the larger towns, you might arrange to have talks at some moving picture house, and secure from the Association a set of picture films, charts and other descriptive literature of any nature which could be used to advantage. This would not only be of interest to the retailers, contractors and carpenters,

**Salesmen
Should Work
Together**

but they could take their families. The more people we have boosting lumber the better will be the results. Let us try to get everybody enthused over our lumber business.

How much of the average salesman's time is wasted? I mean by this, how much of his time is expended in a direction which does not result in profit to him, his company, his trade or to the lumber industry in general? Think how much of this would be converted into an asset if he should take advantage of all the opportunities which present themselves—no day would be long enough. Let us endeavor to utilize our time and energy in creating something. In the selling of lumber we have traveled along the same old road our great-grandfathers blazed for us, with the result that our live, up-to-date competitors have introduced substitutes. They had to do something to introduce their product, they had to create a demand for it, and it has made them more resourceful in this direction, and they are crowding us off the map, so to speak. They all know what their product is good for and what it will do under all conditions—we don't. Some one of the substitutes knocks lumber, saying it is not fit for anything, and we cannot refute the statement because we have never made a study of the merits of our product—we let it go, and they take our business away from us.

**The Best
Utilization
of Selling
Energies**

We have left our selling interests almost entirely to the retail merchant. The average retailer is not interested in Yellow Pine timber any more than in anything else. He is interested, however, in selling any product which will net him the greatest profit. Many of the lumbermen are selling substitutes to take the place of lumber when lumber would answer the purpose to better advantage. We cannot blame the retailer—he is working for himself; if he can get more profit out of the substitute he is going to do it. The representatives of the manufacturers—the traveling salesmen—are the proper ones to see that Yellow Pine lumber is sold to the best advantage, even though it becomes necessary for us to assist the retailer in selling our lumber at our own expense; we cannot expect them to work for us unless we make it an object for them to do so. The lack of co-operation among competitive salesmen, and as between the salesmen and the retailers, in an effort to promote the general interest of the lumber business is hurting us badly. I believe in co-operation in all things, just the same as in "United we stand, divided we fail." I compare, in my own mind, the struggle of the lumber industry up the hill of success, to a loaded wagon being drawn by a string of mules. If we all pull together it will

**"In Union
There is
Strength"**

be much easier to reach the summit than if a few pull at a time while others lay back. Systematic organization is just as essential to the success of our business as to the success in battle or in conducting the peaceful affairs of nations.

Co-operation produces power. This power can be used to build up or to destroy individually or collectively. Some associations misused the power they created, and as a result, the public, not being familiar with the workings of all the associations, came to the conclusion that many or all of them were detrimental to the general public interest. But within the last year or two sentiment has been fast changing. The public is finding out that not all associations in industries are used to its detriment, but that when conducted sanely they are of great benefit not only to the individual interested in the industry but to the people as a whole. We are not created equal in ability in any direction. There are people in all lines of business who are not capable of conducting their own business successfully. They are constantly destroying what someone else has produced, and, hence, their operations are detrimental to the general interest, and business failures are the final outcome. A business failure has the same effect as the death of an individual in a community. If the individual was a benefit to the world, then the world sustains a loss by reason of his death. Failure in business is not a benefit to the people as a whole, because those interested in the industry are not the only ones who suffer as a result—the general public comes in for its share. Civilization is built on co-operation, and unless we co-operate with one another it would be impossible to carry on the world's affairs today.

**Public Profit
in Trade
Organizations**

Through our trade organizations it is possible to obtain and disseminate knowledge and information regarding our business which could not be secured and distributed otherwise, and put into effect many economical methods, thus benefiting the people as a whole.

While through co-operation we cannot make all people equal, we can make them stronger, and prevent many business failures. Through association work we can reduce business failures to a minimum. In some industries, I understand that their associations go as far as to advance money to their members to assist them in tiding over critical periods. The Trades Commission has strongly urged that the individual concerns interested in the same industry co-operate toward their own upbuilding. The President has written the Commission strongly approving of its action, so we have

every encouragement to go ahead with this work. If we work intelligently for the benefit of the people we will profit by it, but if we work to their detriment eventually we will suffer for it.

The salesmen have a greater opportunity to advance this movement than anyone else, because they are constantly calling on the trade, the buyer and consumer. All of us are failing to a greater or less extent to make use of the knowledge we possess, many of us because we were not directly interested at the time. We overlook many opportunities to promote the general interest of the lumber business, whereas, if all of us would look at it from a broader viewpoint we would profit by it. For instance, we all know that the creosote treatment has been successful for a number of years, yet the owners and manufacturers of timber are doing but little toward introducing the treated material, seemingly waiting for the public to find out what it is and then call for it. And, as a rule, they are standing ready with a wet blanket, so to speak, to smother any ambitious user who comes to them with a little difficult specification. Until recently but little or no effort was made by the lumbermen through the Association to promote in any way the use of creosoted material, but since the Southern Pine Association was organized some effort is being made along this line, but nothing to compare with what it should be. The machinery of the Association, however, is in good running order and well organized, but like the machinery of a sawmill, it cannot create anything of itself, it must depend upon its subscribers together with others interested in the lumber business throughout the country to furnish it with material. That is why we are holding this convention. There is no one in a better position to ascertain where the use of our lumber can be increased, or how its present rate of consumption may be maintained than are the retail lumbermen and traveling salesmen. Remember, the Southern Pine Association is not organized merely for the interest of the manufacturers who are subscribers for its service, but for the benefit of every branch of the lumber industry, and it is looking for information and suggestions from every source. The traveling salesmen should make this known to every retail dealer, every architect, engineer and consumer of lumber throughout the entire country.

**Association
Work Is
for All**

The lumber industry is second in rank in the United States. Let us make this organization the first of its kind, not only in the United States but in the world. It can be done if we will all set about it in the right way and pull together. With the proper

energy put forth by the salesmen co-operating with the retail lumbermen they should be able to find thousands of new uses for lumber, and this information should be passed to the Association and distributed by it through the proper channels, so that when knowledge or information is gained by some retailer in any part of the country it will be placed before every lumberman in the United States, thus enabling the entire industry to profit.

I do not believe the industry as a whole has considered as seriously as it should the giving to the consumer his money's worth. We have given too much consideration to getting all we could for our lumber without giving enough consideration to giving all we could to the consumer. Now that we find that we are failing to accomplish what we have been striving for through the policies we have been pursuing, let us try giving the consumer as much for his money as it is possible for us to do. We cannot do this so long as we are ignorant of what our lumber is good for, and we cannot expect the retailer, or anybody else who is not interested in our stumpage, to figure this out for us.

Logging Costs

By Frank Schopflin

Central Coal & Coke Company

Kansas City, Mo.

The records of the Southern Pine Association indicate that the various companies reporting their logging costs to this Association for the first three months of the year 1916, took their stumpage into account at amounts ranging from \$2.00 to \$7.00 per thousand, log scale, and the average for all companies was \$4.88 per thousand feet, log scale, or \$3.986 per thousand, board measure.

The difference in stumpage between log scale and board measure is, of course, caused by overrun, and this question of overrun is probably one of the most mooted questions in the lumber business, as it is affected in so many ways, by a diversity of causes: First, the different log scale rules in themselves give different results as to overrun and then, the same rule applied in different ways produces different results as to overrun. Overrun is further affected by the method of deducting for defects in logs;

Wide Variation in Overrun

by the manner of slabbing; by the character of edging done and by the judgment of the trimmerman in trimming the lumber, and, of course, by many other causes too numerous to mention here. As an illustration of this point, the records of the Association show that for the three months' period above mentioned, some of the companies reported their overrun as low as 5 per cent and others as high as 58.3 per cent, so that it will readily be seen that there is a very great variation in the question of overrun itself.

The logging costs, on the form used by the Association are divided into the following headings: Stumpage, Cutting, Skidding, Loading, Spurs, Transportation and Total Cost of Logs in Pond.

Under Stumpage, of course, is taken up the cost of the timber standing in the trees, to which reference has been made before.

Cutting covers the cost of severing the tree from the ground and this cost is affected largely by the locality of the timber, character of labor obtainable and to some extent by the height of stump. The average cost of cutting of all companies reporting to the Association for the three months' period was \$0.385 per thousand.

**The Items of
Logging Costs**

Under Skidding is taken up the cost of getting the logs from the stump to the spur tracks, preparatory to loading on cars and bringing into the mill. Of course, the cost of skidding is affected by the method employed; by the contour of the country; by the density of the standing timber on the ground and very largely by the weather conditions. The methods employed range all the way from the bull tractor to the four-line re-haul skidder, and the average cost of Skidding, as shown by the Association records for the three months' period, was \$1.023 per thousand.

Under Loading is taken up the cost of loading logs from the skids on log cars for transportation to the mill and this, of course, is affected not only by the size of the trees, but by the method of cutting the logs; that is, whether the logs are cut short in the woods or cut to longer lengths and cut to the desired length at the mill, and it will also be governed largely by the method of loading used. The average cost of loading for the three months' period, according to the Association figures, was \$0.239 per thousand.

Under the cost of spurs is taken up the cost of laying, lifting and maintaining tram track to reach the timber, and this is an item that will show a very great variance with the same efficiency in the work, according to the contour of the country. Naturally, in

a very rough country where considerable grading and ditching is necessary, the Spur expense will be excessive. The average cost of Spur work for the three months' period was \$0.597 per thousand.

Under Transportation is taken up the cost of what is known as the "main line" railroad, or the road from the mill to the point of concentration of logs in the woods and the cost of operating the necessary train crews to bring the logs into the mill. This is naturally affected by the distance the timber is from the mill, the character of the country through which the road runs and the grades that are encountered in handling the trains over same. The average cost of Transportation for the three months' period was \$0.911; making the Total Cost of Logs in Pond, for the three months' period, according to the Association figures, \$7.141 per thousand.

**Yield Per
Acre a Large
Factor**

As before mentioned, it will be readily understood that the cost of logging is governed largely by the yield per acre of the timber, as this affects almost every item entering into the costs.

As a general proposition the yield of short leaf timber is considerably less than long leaf; but it seems that here is where nature has applied the law of compensation. The weight of short leaf pine is considerably less than long leaf, and we feel that the manufacturer is entitled to the natural benefits on weights of short leaf timber, in order to offset the increased cost of logging, rather than give this benefit to the trade.

Much could be said in connection with this feature and, in fact, all other features of logging costs, if time would permit, but on account of the necessity of briefness in this case it has been impossible to more than touch on the features of the cost of stumpage and logging; but it will be apparent to anyone, even though not familiar with the logging end of the lumber business, that logging costs are subject to greater variation than are the costs in the manufacturing end of the business, being affected so materially by the natural conditions which ingenuity and efficiency cannot overcome.

The Art of Salesmanship

By D. M. Barrett

General Chairman, World's Salesmanship
Congress
Detroit, Mich.

When business men get together in a group like this they are accustomed, among other things, to being a little bit flattered and congratulated; and, not to be outdone in courtesy by others who shall occupy this platform, I do most heartily congratulate you upon your splendid gathering; but, at the same time that I do so congratulate you, I hasten to add the respectful reminder that business gatherings of this kind can be either very valuable or absolutely valueless.

Thousands of American business men are fanatical about *getting together*, seemingly for the mere sake of *getting together*, instead of for the sake of the results of getting together, with little or no profit to themselves, and usually at very substantial profit to the clubs and hotels which foster their getting together. They hold conventions or periodical meetings, make speeches, applaud, and then adjourn until the next opportunity of *getting together* rolls around, when they habitually go through the same performance all over again.

**The Habit
of Getting
Together**

If blarney were the end of life, and if business were merely a matter of bunk, then with the most of these "*getters together*" the "bull" would be legal tender. But business, as I find it today, is as much as ever before a matter of *net results*, and this wonderful meeting of business men must realize from the beginning of its session that we are here bent upon definite net results.

Success today, in any field, is a matter of ACT, and if success is to be won, deeds, not mere diction, must count highest in the game. This is just as true of the professional field as it is of the commercial field. The doctor, for instance, who ranks highest with the modern patient is no longer the most talkative, the most complimentary, the most agreeable, the best known man about the town. He talks less—he even prescribes less. And one reason why it is so difficult to be a successful minister (already we have had to cut them down from two and a half hours to twenty minutes), is because there is so much more to practice than one can

**Success To-
day a Matter
of Action**

preach. So, too, the business man (whether individually or in his groups), to be successful, must *do* and stand for more than he merely talks about or listens to. To hold a big meeting like this one is all right—to deliver speeches is a sort of necessary evil, to applaud is generally compulsory, and to adjourn is invariably necessary; but these things, of themselves alone, do not necessarily make for the “Betterment of Business,” which is precisely what you are here for. The “Betterment of Business” implies the “Betterment of Salesmanship,” and the only justification for a gathering of this kind is to make possible, or rather I should say, to make *actual*, better salesmanship.

How then, and where, can we better learn Salesmanship?

I will endeavor to answer this question by first hurriedly running over the technical sources of better Salesmanship with which you are already familiar. Then I will suggest a *working* definition of Salesmanship, and finally I will attempt to prove that Salesmanship is synonymous with “Self Development.”

WHERE CAN WE LEARN SALESMANSHIP? At a sale, by analyzing it, and finding its component parts to be, introduction, attention, interest, conviction, desire and resolve.

WHERE CAN WE LEARN SALESMANSHIP? At schools of Salesmanship—good schools—attend them, and let your salesmen attend them, where they will be taught the three well-defined steps to a sale, attracting attention, inspiring confidence, creating desire.

WHERE CAN WE LEARN SALESMANSHIP? From books on Salesmanship—good books, read them, and let your salesmen read them—how they variously treat of personal appearance, manner of approach, arrangement of our selling talk, loyalty to our house, treatment of our competitors, enthusiasm, tact, persistence, and the art of closing.

WHERE CAN WE LEARN SALESMANSHIP? At the good salesman's elbow, noting his deportment—his cleanliness of habits—his agreeableness under all conditions—his faculty of doing the right thing, no matter how difficult—his regular return of 125 per cent work for 100 per cent pay—his independence of supervision—his aptitude for doing his work a little bit better and a little bit quicker than the other fellow.

WHERE CAN WE LEARN SALESMANSHIP? From the coaxing shop window—from the beckoning billboard—from the magnetic magazine ad—from the persuasive paper—from the bribe-like bargain in the paper—from the tantalizing temptation—from

the stimulating sermon—from the seductive smile—from the minister's menace—from the lawyer's lie—from the drummer's drone—from the huckster's holler—from every human activity that makes for GROWTH.

WHERE CAN WE LEARN SALESMANSHIP? From these master salesmen on this program who are to address you. From all those other master salesmen whose names are business mottoes—from Hugh Chalmers, from Norval Hawkins, from Harry Ford, from John Wanamaker, from Pierpont Morgan, from Marshall Field, from the ragged newsboy, from your next door neighbor—from everybody who GROWS.

But, not from any one thing, nor from any one person, nor in any one place, can we comprehensively learn Salesmanship, since Salesmanship comprehends everything, every person, and every place where there is GROWTH. No one sale, no one salesman, no one sales school, no one sales-book can comprehensively teach you Salesmanship. The one only book to comprehensively teach you SALESMANSHIP must comprehend many sales, must make you acquainted with many salesmen, must test out for you many sales theories, must present as many different phases and aspects of Selling as there are sales and salesmen. The one only book from which you can comprehensively learn Salesmanship is the book of experience. To comprehensively learn Salesmanship we are compelled to get out and get experience of sales and of salesmen, of sales plans and sales ideas, of their success and their failure. To comprehensively learn Salesmanship you have got to get out and give yourself a chance to GROW.

THAT is the *working* definition of Salesmanship. Salesmanship is the *ACT OF GROWTH*. Salesmanship is everything in the world that makes for GROWTH—the coaxing shop window and the beckoning billboard—the magnetic magazine ad and the persuasive paper—the bribe-like bargain and the stimulating sermon—the drummer's drone and the huckster's holler. Everything in the world that makes for GROWTH, financial growth, physical growth, intellectual growth, moral growth, is Salesmanship. Salesmanship is literally that which makes the world grow! Rebuilt San Francisco after the fire—dug a ditch across the Isthmus of Panama—flooded our highways with automobiles—electrically deluges our midnight sky—bridges our rivers—crosses our mountains—beautifies our cities—civilizes our people—unites (God grant) our nations. Everything in the world constructive, everything in the

**Salesmanship
the Act of
Growth**

world productive, everything in the world that makes for GROWTH is Salesmanship. Salesmanship is the "ACT OF GROWTH." In the individual, in YOU, it is legitimate selfishness in action—not greed, but sensible self-interest, self-increase, self-multiplication, self-betterment, self-development, aggressiveness, progress, push. Every productive, progressive act that expresses the natural law of GROWTH is Salesmanship.

This being the fact that "Salesmanship is the act of Growth," it follows that Salesmanship governs growth, and in turn, is governed by the possibility of growth. There cannot be growth without Salesmanship to produce it. Neither, on the other hand, can there be Salesmanship without the possibility of growth to stimulate it. Salesmanship simply cannot be where there can be no growth. Hence, the economic fallacy of stunting salesmen with fixed salaries to produce constantly increasing growth—the unsoundness of trying to grow at the expense of another, which is the logical explanation of our country-wide stoppage in the growth of business that ensued from the year 1907 until the war abroad artificially inflated our markets, and now being blamed by our two contesting political parties upon each other.

Without wishing to hold a brief for the Republican party, whose present nominee I greatly revere, and without wanting to champion the Democratic party, whose highest representative I personally know and admire, I do desire to take advantage of this opportunity to point out to you business men that our country-wide stoppage in the growth of business is not to be charged to *political* error, but to the *business* error of failure to comply with the natural law of Compensation, which is the underlying principle of Salesmanship.

Business ceased to grow because the majority of those responsible for the growth of business not being permitted to share in that growth, began to assail the bigness of business. Through their assaults "big business" got into bad repute. These non-participating producers of the growth of business actually talked themselves into believing that "bigness" and "badness" were synonymous as applied to business. With the hyper-criticism of discontented minds, they pictured "big business" in all our magazines as devilish, beastly, having claws instead of hands, and always clutching at the public purse. With the super-virtue of well developed muck-rakers, they gave the *glad ax* to the biggest and the best of our business men. They literally hacked away at bigness

in business until business was dead. The business soul, which is nothing else than *bigness*, was killed. Soon we had to bury the reeking body of it, and then we had no business left—until the war came along and artificially inflated our markets. But in the meantime there are some of us, particularly in the city of Detroit, from which I hail, who have learned the practical business sense of giving the producers of our business growth a share in that growth with us. And so it seems especially appropriate that this city which has prospered so prodigiously through the practice of this principle of participation should endeavor at the “FIRST WORLD’S SALESMANSHIP CONGRESS” to which it is giving birth, to forcefully remind business men that the underlying principle of salesmanship is the natural law of equal compensation. Nature will not tolerate the arbitrary taking of anything. In nature all things are sold, measure for measure, tit for tat, an eye for an eye, tooth for tooth. Everything has its price and if that price be not paid, not that thing but its inferior substitute is procured. Therefore, I say to those of you who are business proprietors, employing salesmen, seek more than ever to have your producers of your growth participate in that growth with you. For, if you do, you will not only thereby get more business from the men already attached to you, which is obvious, but, what is still more important, and what you employers who have unsuccessfully tried to get good producers will appreciate, you will be able to bind to you other more productive co-workers, whom you now do not even know and cannot get, and thereby obtain a legitimate monopoly of efficiency in your line, while your poor competitors are limping along with their old methods and their pathetic machinery of watching every man and suspecting one another in a way that makes it impossible for them to compete with free-moving, sincere employers who deal directly and openly with their employes, without any vast machinery of suspicion to bother about.

**Producers of
Growth
Should
Share in
Growth**

It is a last century delusion to maintain that for sheer industrial economy and guaranteed growth there is anything on earth in business that can take the place of good, old-fashioned TRUST. It is simple folly to deny that you can get the most out of a red-blooded growing man until you take him into partnership.

Do not, therefore, employ servants. And don’t be a servant. If you are content to live the life of a servant, if you are satisfied to think in terms of servitude, your penalty for annihilating your

soul will be that you will rear up your children with the hearts of clerks. For your own sake, and for the sake of your firm, use your God-given right to GROW.

Give me the healthily aggressive salesman who is hourly selling himself into a bigger and better growth. I'll stake his *self-reliance* against any tupenny hireling's servitude. I'll invest in his vitality, whereas I wouldn't gamble a penny upon the stifled mentality of the stupefied servant whose faculties have atrophied from disuse. I'll trust to the aggressive man's capacity to develop, whereas I couldn't hope for anything from the latent possibilities of the craven who subsists on what is flung to him instead of growing upon all that he can legitimately get.

It may be that you are beginning to ask yourselves if I am not over-estimating the side of the salesman and wanting to impose an unnecessary burden upon the employer over and above what he now sustains towards his salesmen. My answer to this is, emphatically, NO! I will even go farther and add that the first duty to himself of the average employer of average salesmen is to lop promptly off that percentage of his sales force whose sales do not constantly show a regular *growth*, whose methods are not aggressive, whose conduct is not saturated with initiative and the spirit of enterprise; because no man can grow, much less participate in the growth of another, who has not within him the irrepressible determination to expand. In other words, participation in the profits of an organization must be first qualified for in terms of aggressiveness and enterprise. Let me therefore round out or complete the working definition of salesmanship, as being the "act of growth," by reminding you that the very essence of growth is aggressiveness, and the one thing that I do want to emphasize is the value to you and to your firm of your *individual self-development through aggressiveness*.

And as I begin to emphasize the value of enlightened selfishness, of sensible self-interest, of intelligent discontent, which is the very secret of successful selling, I must frankly confess to being soberly conscious, as I stand here, that the individual placed in the position of impressing and influencing American business men at this critical moment in the world's history assumes a responsibility that is not slight, for the very good reason that not within exactly one hundred years has the happiness and the prosperity of the world depended so completely, as it does at this hour, upon the aggressiveness of American salesmen. The Old

**Cut Off the
Non-Growing
Worker**

World's business men can do nothing more for the happiness and prosperity of the world. A goodly number of the more efficient of the world's builders are already dead in the trenches, and an equal number will soon lie dead beside the others. The majority of those remaining abroad are likewise dead and buried—buried in bad business hopelessly burdened by the blight of the war. The world's progress, the world's prosperity, the world's happiness, has suddenly been thrust into the keeping of the American Salesman. The American Salesman is the MAN OF THE HOUR. The whole world's fortunes are at the disposal of you and of me. You and I, if we are only willing to be aggressive, have the greatest opportunities at this moment that have lain in the paths of men for just one hundred years.

**The Oppor-
tunity of a
Century**

In this connection I like to think about and remind my friends how it has been just exactly one hundred years since opportunities identical with our own were wonderfully capitalized by a young salesman, who, in the perfect spirit of Salesmanship, through extraordinary aggressiveness, moulded a golden career out of opportunities identical with those confronting you and me at this hour.

It was toward the middle of June, in the year 1816, exactly one hundred years ago. Napoleon had been banished to Elba, but suddenly he was reported returning like a conquering hero. His magnetic name was rolling back opposition before him as the sun dissipates the clouds. The business world was in a tumult of terror. Business men stood paralyzed. Doubt and dread reigned everywhere. Every man's mind was a question mark. Would Napoleon do again what he had done before? Would he trample cities beneath his inconsiderate feet and parcel out the people and the lands among his favorites? England was shaken to its center. The Corsican Emperor had sworn, just as today another emperor has sworn, that Britain should be humbled. Business the whole world over was dead. The banks were not loaning a dollar. Many had closed and refused to honor the checks of depositors. People with money were hoarding it. Warring nations were appropriating all available moneys to advance their offensive measures, peaceful nations were appropriating funds to strengthen their defensive plans, but for business there was no money to be had. Government bonds had dropped to 55, and the English loan at 8 per cent had met with only a few straggling applications. Such were the conditions exactly one hundred years ago. While other men stood

still and shriveled up with fear, while other men preached conservation and deliberation, one young salesman made plans to capitalize aggressiveness. That young salesman was Nathan Rothschild, whose grandson died last year in London, head of admittedly the most influential family in the world. With young Rothschild to think was to act. So aggressive had he grown to be that some business men rated him an unsafe risk. When conditions had reached their worst, young Rothschild called his bookkeeper and gave him quick but careful instructions. "I am going across to the Continent," he said, "where I shall see either the downfall of Napoleon or his triumph. If Napoleon goes down I shall send a letter to myself—a blank sheet of paper in an envelope. When you get this, buy English bonds. Buy as quickly as you can, using as many men as you are able to hire. Spend all the money you can and buy up to within five points of par." Then young Rothschild rode away on horseback. He left a man with a strong and fast horse every forty miles between London and Dover, and then on the other side of the channel between Calais and Brussels. At Calais he stationed a swift yacht and he promised her skipper a reward of a hundred guineas if he crossed back over the channel within four hours after receiving a special letter addressed to Nathan Rothschild. He also promised a rich reward to each rider if he rode his forty miles in less than four hours. History tells us that young Rothschild watched away the night of the 17th of June circling uneasily the outposts of Brussels. He saw the battle of Waterloo or such of that mad confusion as was visible. He saw the French ride headlong into that open ditch—he saw the last stand of the Old Guard. At nightfall he drew the girth of his saddle a hole tighter, threw away his pistols and his coat and his hat, and rode off on a gentle gallop. Soon he must have been riding each mile in less than five minutes, because he rode sixty miles that night in five hours, using up three horses, and the rider to whom he finally tossed his saddle bags asked no questions, but, leaping astride his horse dived into the darkness and was gone. Twenty-four hours before London knew that Wellington had won, young Rothschild's firm had stuffed into its vaults practically every English security that was then in England. While other men had stood still and shriveled up with fear; while other men had been counseling conservatism and deliberation, one young salesman had quickly invested a young man's aggressiveness and capitalized the golden opportunity of the hour.

**A Triumph
of One Man's
Aggressiveness**

So must you! NOW! Conditions in the world are absolutely identical with those that existed at this moment one hundred years ago; one man capitalized aggressiveness. Today thousands of men are actively upon the alert, planning to make a life's growth within a few months—not by the aid of horses, not by slow-moving boats, but by the aid of the telegraph, the telephone and myriad means of their own mental ingenuity.

Some of these aggressive thousands will gather in Detroit, on July 9th at the first World's Salesmanship Congress for the deliberate purpose of preparing to cash in on the golden opportunities of our own hour. Those who come to Detroit will be the representatives of one million two hundred and fifty thousand professional salespeople in the United States. Upon the efficiency of those producers depends the prosperity of the rest of us. And yet, there has never been to date any concerted effort by, or on behalf of, salespeople to methodically increase their efficiency and thereby add to the happiness of us all. Many of us have been prejudiced against the possibility of perfecting a salesman, and this bigotry has been a brake upon the wheel of progress. For the most part we are loose and desultory in our selling methods. We have considerable knowledge about all other forms of human striving, but very little about salesmanship. We know definitely just how to select horses, dogs and cows, but we haven't the faintest definite idea about how to select salespeople. We know precisely how to educate stenographers, barbers and plumbers, but there aren't many of us who know how to educate a salesman. We know exactly how to manage students, convicts, and laborers, but it is the rare man who knows how to manage his order-getters. As a consequence, our American salesmen are, for the most part, nondescript, undefined, questionable products, constantly troublesome to their employers, persistently pestiferous to the public, discredited, discredited and degraded to the level of general nuisances—while foreign salesmen, in the guise of diplomats, ambassadors and gentlemen of leisure, methodically selected, well educated, and capably directed, are poaching at this moment upon what we have fancied to be our protected preserves. Once upon a time these foreign salesmen used to be distant six months from America. Those were the days when we had to sail around the world—today we think around it. Those were the days when America was arbitrarily conceded to have peculiar commercial advantages of its own. Those were the days when vast stretches of country and the seas

**The Training
of Salesmen
Neglected**

**Competitive
Conditions
Past and
Present**

insured us against competition. Those were the days when we began to grow the crop of block-heads who have so successfully blockaded "business betterment." Those were the days when there was supposedly no commercial conquest except by the sword. Those were the days when salesmen were cringing peddlers pleading for favors. Those were the days when meeting halls like this one were crowded with critical competitors. Those are the days that are gone, never to return. These are the days when men can get together as co-operators, as you do here and now. Differing though you do in your business duties you are yet one in your purpose. Some of you are salesmen, some of you are sales-managers, some of you are employers, but none of you have aspirations for a monopoly on salesmanship, there are no charters on leadership, no one of you feels able to get along without the rest of us. We are each and all of us intent upon being mutually helpful to one another, for the sake of the general betterment of business through the betterment of salesmanship. Let us begin our mutual helpfulness by mutual commendations. There are many here who are to be commended for the opportunity that has been accorded us of getting together—those who have contributed their money, those who have contributed their constructive ideas and their time, those who are to contribute their addresses. It is not easy to repay these men. Let us show them our gratitude by working *with* them as much as possible, rather than at cross purposes with them. We are expected, of course, to have our individual opinions about many things, nor can we altogether lose sight of our personal interests, and each of us must plan to profit in some way by being here; but this is obviously no occasion for inconsiderate individualism, or purely private interests or independent commercial exploitation. Let us therefore give our opinions—those of us who have them—but let us be mostly mindful of the general good—the Betterment of Business through the Betterment of Salesmanship.

And remember that "Betterment" entails becoming "better" and "better." You may be very comfortable with what you now earn, but if you are not aggressively bent upon something better your success is a question mark. Be satisfied where you are and you are a destined dead loss—you are a potential hobo—you are the makings of a "have-not." Stick in your rut and you are buried alive. If you have not the courage to progress beyond the point to which some good employer has led you, relinquish at once all

hopes of "business betterment." Your good employer, at best, can but fill you with established ideas and give you his routine training; but the world pays mighty little in wages for canned ability, however excellent the brand. Machine-made memories and standardized brains can instantly be duplicated. There are millions of machine-made memories and millions of standardized brains. Hands and minds that have merely memorized examples are common. The uncommon thing, the thing with the germ of success within it, is aggressiveness. The moment a man starts to manifest individuality, to think for himself, to originate, to show aggressiveness, that moment he steps up out of the general mass of men and demands and receives attention for himself—he throws off his confining fetters, gets out of the rut, and begins to grow. If you are to make a success, you must make it out of *self*. The only things on earth that have ever counted for success have been expressions of self. It is always some single self that moulds men and makes history. It is individuals, not nations, that shape destiny. It is persons not peoples who remake nations. Why live lives of quiet desperation, minimizing self and exaggerating the idea of devotedness to some other fellow, when most jobs are mostly stopping places, and stopping places are never stepping stones. Devotedness to some other fellow, or to an ordinary job, just because it is a job, can be a disease, although the malady lies not exactly in being devoted, but in being content to remain forever devoted to the idea of being an employee. If you are content to think of yourself forever in terms of being an employee, you are not worth a whoop to your firm, no matter what your firm thinks about it. Your employer can hire your time, but only you can give him your zeal. What makes the growing, aggressive men of our big industries valuable to their concerns is that they have within them the irrepressible determination to expand. Worth-while employers don't want worms warranted not to turn. They want restless, aggressive men like themselves. Yesterday's employer, I will admit, bought help pretty much as he bought office equipment, paying as little as possible for as much as he could get, keeping it as long as it served its purpose, and then displacing it with other equipment just as cheap. As a consequence, he was constantly drawing a circle of limitations around himself, giving his competitors every opportunity to take away from him the brains to which he would not give a chance, and keeping away from him the young manhood in search of a man for a boss. Because brainy

**Aggressive-
ness the Un-
common Thing**

**The Salesman
Worth-While
Employers
Want**

young men of today are putting themselves into other men's business as capital, and they are rightly solicitous in advance that the return shall justify the investment. They realize that they owe it to themselves to know where they are going. They have learned that a job must interest them as well as support them. They have dropped their cringing, apologetic deportment, and are going out to get what belongs to them. They are answering the type of help wanted advertisement which seeks ability to constantly face new situations without hesitation, in the self-reliant spirit of development and growth. They are not money mad. They are not falling head-long into the first thing that comes along, simply because they need money. They are putting their souls into futures. They are lending their employers capital. All around them are the evidences of growth and they are not blind to them. They have seen men grow rapidly over night from poverty to affluence. They realize that there is not a dollar nor a distinction beyond their reach. They have been goaded by practical preachers, like Kaufman, into firmly believing that "there isn't a ten-minute lease on a ten-cent piece—that there isn't an unavailable inch of land on the continent—that any man with five senses in his purse can command anything that Opportunity has to offer—that if you are so rich the biggest skyscraper in town is within your reach." Because the department store at the corner is merely under the temporary control of its present owner. When his aggressiveness fails he loses his store. All the titles in the trust companies' vaults and the millions in bank storage belong to anybody shrewder than the folk who put them there. The chairmanship of the steel trust and the presidency of Yale University are constantly open to all comers. Even the White House is never bespoken for more than four years at a time. There's a seat waiting for you in Congress and a page in the encyclopedia. You may grow just as great as you please. You may aim your ambition wherever you wish. There's no such thing as a private target. Success is always up on the block, always up at auction. What do you offer? Desire! That's easy to offer. We all desire to be more, and to have more; but desires and wishes are unsigned checks, worthless without backing. How much manhood do you bid? How much aggressiveness? How much of what is different from what the other fellow is bidding? Because there are a hundred million other fellows bidding against you, straining, striving, scheming, inventing, daring, avoiding dissipation, dispensing with

Nothing
Beyond the
Reach of Ag-
gressiveness

luxuries, applying every waking hour to greater and greater aggressiveness. Influence and pull won't avail you anything against their methods. Aggressiveness is supreme. Influence and prestige are dying abroad to Krupp music. Where kings have failed to be men, men have become kings. Manhood can have just exactly what it dares to go after. Dare to do something, for yourself. You can't share until you dare. The actual doing of what you dare will turn out to be a surprising stimulus. The more you dare the more you will do and the more you do the greater will be your success. Success won't come to you, and nobody is going to hand it to you. There isn't enough of it to go around. Neither are there any known laws for finding it; but the laws of making success are just as exact as the laws of the tides which moan and cry and beat upon the shore the round world over. Just as surely as water rises to the height of its source, just as truly as chickens come home to roost, just so certain is it that Fortune is overtaken by the pursuer of Fortune, but you have to go after it. Old folks who are sent back over the hills to the poorhouse have merited their fate, and you and I are on the way back, over the hills to the poorhouse if we are not on the way aggressively forward to something better than what we now have.

The whole wide world is wanting to be sold to. There is a famine in high-priced salesmen throughout the land. The biggest prizes with which success can lure you are waiting if you are only willing to be aggressive, if you are only willing to be different from the ordinary, if you are only determined to be dissatisfied with the commonplace and the ordinary and the possible, and, in their stead, resolve to actually accomplish the impossible. For, believe me, it is some new beautiful impossibility that the successful men of today must be constantly striving after. The men of yesterday lived in the days of possibles and waited and hoped in vain for the miracles of today that never came to them. The aggressive, growing men of today go out and perform the miracles that they demand, and, oh, such miracles as we DO perform! We are making our car wheels as well as our napkins out of paper, and our sidewalks out of glass—where once we traveled first on the ground, then under the ground, now we travel through the air—we wind up operas on spools—we play chess with the empty ether that is over the sea—we make clouds speak with tongues of fire—always aggressively giving some stretch to what we have, always getting a new grasp on what we have not. And who shall say

**A Famine in
High-Priced
Salesmen**

**"Impossible-
ties" the Suc-
cessful Man's
Goal**

what our modern magicians may not yet accomplish? Pick out the things that are impossible and be sure that they will come to pass. If you would equip yourself with a first class working outfit for a fine little prophesy simply pick out the things that can't be done, prophesy them, and they will be done! And yet in spite of all that has been done, hardly anything has been done. So, if you are dead serious about success and *business betterment*, seek out something that can't be done and do it. The man who does only what can be done can be done without; but the man who specializes on doing what can't be done is indispensable. We grow and progress only as we do what can't be done. Is something impossible? Then let's do it! We have only to make up our minds about it and the thing can be done. Nobody would deny for instance that we shall not soon have found some other use for moonlight than that of merely hauling the tides around the world, or making love beneath. We may, indeed, pretty soon be manufacturing moonlight out of compressed starlight, and using it to heat our houses with, peddling it about the streets from door to door, like milk in bottles. Imaginary? Impossible? Maybe, but typical exactly of the true spirit of aggressiveness, the spirit of Salesmanship, "doing the thing that can't done."

Co-operation *with* Architects and Builders

By Jason F. Richardson, Jr.
Chicago, Ill.

Gentlemen:—It is a great pleasure to be with you and have an opportunity to speak to you.

Architects, builders and material men, especially lumber men, are members of one great organization. We three are essential to building, and we must each take our part in the work, and perform it well. I have been advocating closer relations between the architect and the material man. I feel that the architect has an influence that is being more appreciated and it has become a widening influence. An encouraging sign of increased respect for the judgment of the architect is given by the great number of letters from manufacturers to architects asking for their advice. The commendation of the architects for manufactured products is being sought with more eagerness than ever, which has been said by others to mean that the keen business men who shape these policies are aware of an increasing influence upon the public, by the members of the architectural profession. Your business man of today feels that he is being served by practical men of business, his confidence is established and he permits the architect to carry the problems past the elemental stages into its higher and complete development. Towards the owner the architect naturally assumes a position of trust. He is on his honor to see that money placed in his hands is wisely expended. It is no easy task, and the wise architect avoids "come backs." No one of us can work without the help of others. We must make our drawings complete, our specifications correct, and then half our troubles are over. Understandings and appreciation are what one architect has called "the root of an effective work."

The
Architect's
Influence
Widening

The Wise
Architect
Avoids
"Come-Backs"

The architect and the builders are today working together. The fly-by-night contractors have been eliminated largely, the contractor who was always in hot water with the lumber man. The aim now is to do business only with honest, reliable men. We

know that you cannot get blood out of a turnip, and that you cannot get better work out of a man than what is in him.

The owner has the right to the architect's best judgment, his best skill, his best advice his absolute fidelity and good faith, and these conditions must be met before the architect's duty is accomplished.

**Salesmen
Must Help
to Meet
Conditions**

To meet these conditions we must ask of the material man, such as your lumber salesmen, that you be honest with us and help us meet the conditions.

And so, gentlemen, we ask for honest lumber.

I have said before, somewhere, that lumber is coming back, not only for a number of every-day users, where the substitutes have had their chances and failed, but for really big things, where mistakes would cause damage well up into thousands of dollars, such as in warehouse construction, factories, wharfs, etc. In this connection we take up the question of the proper species of yellow pine for constructional purposes. Mr. Frank E. Davidson, president of the Illinois Society of Architects, has been very earnestly waging a campaign among the members of his association to induce a careful use of the three varieties of Southern Pine.

**A Plea for
Honest
Lumber**

The general practice is to specify long leaf, whether the lumber is to be used where severe stresses are to occur or where relatively greater strength is not essential.

In the construction of ordinary flat buildings and residences, although long leaf pine may be specified, it is stated that either a mixture of short leaf or loblolly is almost invariably delivered, and that those grades are satisfactory, for the floor loading requirements do not necessitate the use of long leaf, nor are there special conditions to induce dry rot.

**Specify the
Right Species
—Then Get It**

But where there is the need for long leaf pine, as in mill construction, because of the heavy floor loading or exposure to dry rot, the architect should pay special attention to the kind of lumber used, and insist upon long leaf. The same discretion in delivery that is taken by the seller when long leaf is specified in ordinary dwelling houses should not be permitted to occur. The corrections of this laxity, Mr. Davidson believes, would be easier if the architect were to specify short leaf or loblolly where those grades are suitable, instead of specifying long leaf. He says that the archi-

tect's first duty is to educate the architects to specify lumber and timbers properly, keeping in mind standard grading rules, and then to insist that the lumber dealers fill the specifications strictly as specified.

Few architects really know lumber and therefore are unable to properly inspect or identify the timbers or lumber which they have called for, and the lumber man knows this.

However, here is where I expect and ask the lumber salesman to help. Many salesmen are called upon to figure bills of lumber by the local dealers—if the lumber salesman would ascertain from the dealer what the lumber is to be used for, and advise him as to the proper grade to be used, and see that he buys only that kind, then you are helping to save lumber from the disgrace of wrong usage, and sure failure to the purpose intended. This is what I mean by honest lumber, right lumber in the right place.

We know that it is possible to get timbers that will meet all possible requirements and will give satisfactory service. I believe the lumber man wants us to get it, and I believe he is going to see that we get it. You have the goods and can deliver them, and we can get together and work out our problems.

The average lumber dealer is wholly unacquainted with the botanical species of timbers and lumbers. He has not the technical knowledge that is necessary for the recommendation of proper materials. Your Southern Pine Association has actively co-operated with the United States Forest Service, and the American Society for Testing Materials, for the purpose of finding some such method for distinguishing the various classes of pine for structural purposes, and has devised a method called the "Density Rule," which provides two classes of pines, Dense Southern Yellow Pine and Sound Southern Yellow Pine, and to quote from their pamphlet:

"Dense Southern Pine includes the best pieces of what has hitherto been known as long leaf pine, and excludes the occasional pieces of inferior quality for structural purposes. It also includes those pieces of short leaf pine, Cuban pine and loblolly pine, which, because of their density and strength, are in every way equal to the high grade of long leaf pine."

Now the idea I am trying to get at is this: If, when filling an order for timbers and heavy pieces the dealer will say on his order blank, or the salesman will ascertain and note the pur-

**How the
Salesman
Can Help**

**Lumber
Dealers
Don't Know
Species**

pose for which this lumber is to be used, the manufacturer, or the mill owner rather, will then ship to the customer the grade of lumber that is suitable for the purpose—or “honest lumber.”

The mill man has for years been sawing lumber as a selling proposition, and does not know or care what for, or where it is going to be used. This lumber is shipped to the customer, who does not know but what it is all right, as it is lumber of the size he wanted. The average architect does not know either but what the lumber is all right. The lumber fails in the purpose intended, dry rot sets in, and the next time the consumer wants to build or enlarge his factory he commences talking steel and concrete.

Reports show that in the East where mill construction for factory purposes is largely used, that with sprinkler protection, it is recognized as a good hazard by insurance companies, and that in some instances the companies consider such a building a better risk than some of the supposed fire-proof buildings.

Kidder says: “Wherever wooden joist and flooring are to be used, it is more desirable from the point of safety from fire to use wood for the posts and girders also, than to use iron or steel for these portions of the building, for the reason that steel beams warp and twist and pull down the building several minutes before the wooden beams would be burnt to the breaking point, that is, provided, the wooden beams have a sectional area of at least 72 square inches, and are spaced four feet or more from centers. Cast iron columns will also generally fail in a fire sooner than wooden posts.”

The architect specifies and gets the steel he wants. He specifies and gets the cement or stone he wants, we get certificates if we want them. Now he wants to specify and get the lumber he wants, and where there is not any architect on the work, then I think it is up to the lumberman to find out the kind of lumber the owner should have and see that he takes it, explaining to him why he should have it, and refusing to sell him any other kind, and save failure and thereby help “honest lumber.”

The Illinois Society of Architects has prepared and adopted standard specifications for structural lumber. This relieves the architect of much detail work, and of the necessity of working out over and over again specifications for successive work. These are not new grading rules for lumber men. They are only intended for the guidance of architects, and the proper use of association

Evils of
Careless
Merchandizing

Kidder on
“Standard
Mill Con-
struction”

Other
Materials
Delivered
As Ordered

grades under official association rules, and particularly applies to Southern Yellow Pine. Standard specifications on other woods are also under discussion. (See the American Lumberman of January 29, 1916).

I believe Southern Pine to be the best wood for general building purposes, and the strongest and best commercial wood on the market today.

**Southern
Yellow Pine
Is Best**

It might be well for the salesman to follow up more specifically the study of dry rot in timber construction, and learn the few rules and recommendations of the architects and engineers regarding the painting of green timbers, etc., that serve to make possible the growth of the dry rot fungus. It is my intention to have you all become consulting experts in this line, as considerable knowledge can be acquired without much effort, and as you are the connecting link between the mill and the consumer, much good would result for the proper use of lumber.

**The Salesman
As a Consulting
Expert**

Then comes the question of branding lumber. A large percentage of heavy timbers are branded, and some mills brand all their lumber. To my mind this is helping the architects, dealers and owners considerably and eliminates the dishonest handler of lumber, and helps put the lumber business on a fair, square and honest basis. This branding of lumber is now, I understand, a matter of discussion among the mill men.

**Branded
Lumber
Means Hon-
est Lumber**

All this means, of course, that the lumber dealer and the lumber salesman should have a considerable technical knowledge of lumber. They should know where to sell the grades, and where not to sell it, and this applies not only to heavy structural timbers and lumbers, but to other grades of lumber.

An architect sends out his plans and specifications calling for certain grades and kinds of materials. Very often it happens that the dealer has not the materials called for on hand. If he is in close touch with the architect it very often happens that he can substitute and at the same time not materially change the conditions or quality of the work. I am very often called up by material dealers on this question and we can generally arrange matters satisfactorily.

This applies perhaps more particularly to the small dealers, but the small dealer is the important man in the small community, and his business goes towards the huge volume of business in a noticeable proportion, and I notice the small dealer is the best

**The Architect
Has Advance
Information
on Future
Work**

lumber association member, and is well posted on lumber and lumber conditions.

I want them to feel that they can come and talk these matters over. I want them to talk over with me the prospects for the season's work. I can sometimes tell them of work coming up that will require certain special materials, and have them make a note of it, and when the salesman comes, the dealer can take up with him this particular problem as to probable prices, delivery, etc., and thereby be prepared when estimates are wanted.

Sometimes the dealer is overstocked in certain lines, and then perhaps I can arrange to use that material in certain work and help him out in that way. I want the dealer to feel that he can go to the architect, not in an inquisitive spirit, but in a co-operative spirit. I feel that the material man and the architect should co-operate intelligently and exchange ideas on existing conditions, so that each may know as to the exact conditions of building industry. The architect is a business man. Treat him not merely as an artist or dreamer; he is today the reliable business man; he is the financial adviser, sometimes the promoter. He stands in a peculiar position of responsibility and trust. We must trust in each other and work together for the common good of all.

The project of the building material exhibits are primarily to afford architects and manufacturers of building materials of all kinds an opportunity to get into closer touch, not only with each other, but the public at large. The sheet metal folks call it "establishing strength through unity," and ask the co-operation and friendly intercourse of all architects and builders, that they as one body may work harmony and improvement and develop a lasting satisfaction, which is essential in making a permanent and profitable buyer of building materials.

I feel that the lumber man today is doing the architect great benefit by the series of reports and information bulletins that are being issued pertaining to lumber. The architects are students of building problems, and information along these lines is appreciated. You will find the architect a regular attendant at builders' exhibits. You will find him interested in the national movements for forest preservation. You will find him on boards and committees for fire laws and ordinances. You will find him a public spirited citizen, giving his time and money for public welfare movements, the city beautiful, parks and play grounds, etc.

Helping Get
Rid of
Excess Stock.

Lumber Men
Helping the
Architect.

You will also find he wants to know what you know and to know what you don't know.

He realizes that the real success of any man is to know what he knows, and to know what he doesn't know.

Whenever the client reaches the point when he hasn't any confidence in the architect's advice, the architect might as well quit.

People generally kick when they pay their bills, but when time elapses, and they realize they have obtained the results they wanted, they are glad they paid the price.

I know the firms in my territory that handle good lumber and mill work, and I know who are responsible conscientious builders. I don't care so much about how you cut your lumber, or how you ship it, or how you dispose of it, or how you collect for it, but I base my confidence on the quality of your materials, and your ability to get it there on time, and therefore I will try and do business with you.

**Architect's
Confidence
Based on
Known
Quality.**

The architect does not care to meet representatives of building material manufacturers, or specialty salesmen who are uninformed on their products. A large percentage of the material salesmen know nothing of the process of manufacture, or important qualifications of the goods they handle. They know less about their materials than the men they are trying to interest, yet they all try to see the architect personally and have their goods specified. The architect hasn't the time or the inclination to meet with men of this class, but we are perfectly willing and anxious to meet men who know their materials complete from the raw material to the finished product. Then when the goods are specified and sold we want men who are interested enough in the work to see that we get the material specified and see to it that it is delivered to the job on time. We want to do business with a salesman who is not content to have his materials specified, but as some one has said, who insists that his firm gives "service," and that this service shall consist of the absolute performance of the contract. The average man starts out with the idea that success is measured by the amount of sales and volume of business, later it dawns upon him that these are not the only things to strive for, and that these are not the important things.

**Ignorant
Salesmen Not
Welcome**

He then knows that he must establish and maintain certain standards. The salesman and the dealer of today are the two

**Salesmen and
Dealers
Must Be
Educators.**

who must act as educators of the public as to the proper use of lumber.

Educate your customers to the adaptability of lumber. Have them familiarize themselves with the simple grading rules, and to know the commercial size of lumber. Educate the builder and dealer to its physical properties, and explain to them what is meant by working stresses. Let them know what to use for flooring, siding or interior finish. Let the lumber salesman talk over with the prospective builder these advantages of his materials for certain work, and let him also tell the prospective builder where he should use the lumber of a certain grade, and tell him if it isn't the proper use of that certain grade. Explain why and even refuse to sell it to him if he insists on using it for that purpose.

I am not here for the particular purpose of boosting lumber, as a building material, but I know that it is our greatest building material. It is the material of the common people. It is the material that enters into the construction of the home, and it is the material that we cannot get along without. Lumber is the small town and community building necessity. I hate the substitutes for lumber that are appearing on the market today. I hate the cheap, patent exteriors with the gaudy roof, and the flimsy frames of the cheap houses. The home builders are becoming more cautious, and more stable in their enterprises. Construction work is rapidly changing. The investor is growing more expert in sizing up conditions of building and the circumstances. The cheap houses of the smaller cities, and many on the outskirts of the larger cities, built of these lumber substitutes, were they to be done over again, would be erected of honest lumber. The old homes of yesterday, the real homes, not the houses we build today, as I described before, but those of the solid and substantial lumber, represent the permanent and stable in construction work, and make for the better growth of building, and as some one has said, "the flashy and haphazard puts sand in the delicate and complicated machinery of trade."

**Lumber the
Greatest
Building
Material.**

**Tall Buildings
Losing Favor.**

Great tall buildings are losing favor for many reasons. Style and class are more desirable than size and altitude. Beauty in buildings is becoming the cry of American cities.

Lumber has always been used, therefore it has been taken for granted that the consumer did not need to be instructed in its proper use, nor given any information regarding its merits and its characteristics of different grades and kinds to build safely

and well. The lumber substitute people have been busy, and the lumber men suddenly awakened and have been awake ever since, and have been busy with their campaigns of publicity, education and service, and the people have profited thereby. I for one, am glad of it, for I certainly am strongly against the cheap, gaudy, flimsy substitutes now on the market. Let us build homes again, not houses. As you drive about does not the solid, substantial old home look good, with its wide comfortable porch, and the air of comfort, and even the old wooden gate, says, "come in and sit down and be comfortable," and the beautiful interiors with the wonderful mouldings and fireplace of the days of long ago? They were built for homes and not houses.

A great deal of the blame of the high cost of building is placed on lumber. You hear more of the high cost of lumber than of any other material. This is unfair to lumber. The American Lumberman says that competent authorities estimate that in a wooden building, the cost of lumber is approximately 20 per cent of the cost of the building complete. Then for the increased price of lumber to make a building cost 25 per cent more, there will have to be an advance in the price of lumber of 125 per cent, and no one, even in the wildest dreams of fancy, can imagine that there will be any such advance, and further says that there is much for the lumber industry to do in acquainting the people with the real facts pertaining to the industry.

I would also recommend that the public be made acquainted with your standard sizes of lumber. The local contractor is criticised severely and the architect cussed for permitting the use of 2x4's that are only $1\frac{5}{8} \times 3\frac{1}{2}$, or joists that are supposed to be 2x10 and are only $1\frac{5}{8} \times 9\frac{1}{2}$, and hardly that. You may not know, but the average owner imagines, as soon as the material is hauled on the job, that he is being robbed from the start, and it takes some very soft handling to bring him back into line. The public should know this, as it hurts the dealer, the builder and the architect. We get enough complaints as to quality, without looking for complaints as to size.

I believe the lumber dealer should interest himself in the betterment of housing work, especially in the rural districts. The farmer is a large consumer of lumber. They are buying the latest farm machinery and automobiles. They are building huge barns and cribs, and making every effort to improve farm conditions, but they have neglected their houses. The Minnesota commission

**"High Cost
of Building"
Not Due
to Lumber
Prices.**

**User Should
Know Actual
Sizes of
Lumber.**

**Home
Building
Neglected
in the
Country.**

has done good work in this line, and has worked out model farm houses. It means business for the lumber man, and the architect is the one that is being looked to for the helping out of the solution of the problem of the return to country living. In his skill and sympathetic vision he is called upon to help achieve the sort of homes that will truly make rural life really worth while. An important role, therefore, will undoubtedly be played by him during the next few years, in furthering to success the country life movement. His mission is indeed a vital one, for when country homes are made both convenient and satisfying, when architectural loveliness is found not merely in the rare isolated dwelling, but in whole groups and colonies of homes, country living will be invested with a new charm.

I believe that much good comes from the reading of your trade papers. Much good has come to me from an occasional reading of the lumber journals. I wish I had the time to read more of them. I urge that all dealers read their papers, at least take the covers off, and not leave them piled up in the office like cord wood. The trade journal is the medium of exchange for ideas in all trades. It is the strong influence for co-operation and publicity.

There is a vast difference in business methods of the present and those of our grandfathers. I have found some very good pointers in the lumber journals, and have found that the dealer did not even open up his paper, and he wondered how I knew what I knew. I think the lumber dealer is carrying too many side lines to be a good booster for lumber. He is hurting the lumber business largely by carrying the cheap substitutes that lead me to doubt as to his sincerity when he comes to talk lumber with me; but then that's his business. If I don't like his cheap materials, I don't have to use them, and I won't, take it from me.

I believe the architect of today is a friend of honest lumber. We are using other materials for additional fire protection. I am a large user of steel and concrete and metals in my work. I build re-inforced concrete factories, office buildings and houses. I use metal doors and metal trim, and wood substitutes of all kinds, not because of any feeling against lumber, but to meet certain conditions, and certain hazards. Now the strongest objection against lumber in construction work is the fact that fire destroys it, that it will burn under certain conditions, and yet a few dollars wisely spent could protect it from fire hazard, and yet I hear no

Lumber
Dealers
Carry Too
Many
Side Lines.

Meeting
the "Fire
Hazard"
Argument.

one coming to its rescue. If I were a lumber man I would protect my product from the abuse and condemnation of the substitute materials. Timbers can be made fire retarding, wood shingles can be properly laid, siding can be properly treated, and foundation timber and posts can be preserved.

The successful selling of any product does not end with the sale. It is the follow-up business that counts. The lumber man should show more faith in wood, more knowledge in his product, and be more honest in his use of wood. He must apply his knowledge in his yard. He must show his faith in his materials by his application. He can't expect to compete with concrete for certain uses, but he can build drives out of wood block. He can build floors for his sheds out of wood blocks, and he doesn't have to roof his sheds with paper roofing that puff and raise with the wind. He doesn't have to pile his lumber so that it rots from end to end. He doesn't have to line his office with patent wall board when his beaded wainscoting stock is waiting to be used. He doesn't have to use iron gates when a neat ornamental wooden gate is better looking, and more serviceable. He tells his customers that paint is necessary to preserve wood, and his sheds have not been painted for years, and then probably by some patent advertising concern.

**The Dealer
as a User
of Wood.**

The lumber man must believe in his materials. It is not hard for me to believe in them, why should it be for him? I am for lumber, good honest lumber, placed in the position where it belongs, protected as it should be, treated as its beautiful grain calls for. If you treat lumber right, it will treat you right for years and years to come.

I trust I have made myself clear as to what I consider fair treatment for lumber. I have enjoyed my recent association with the lumber fraternity, and have acquired considerable valuable information through your pamphlets and reports. I did not realize the vast amount of work that your Association has been doing in technical lines, tests, etc.

I believe that the work of your Association is one of the important movements of the hour, and I feel that I am only doing my duty when I talk in favor of lumber.

Cost of Production from Pond to Sorting Chain

By C. J. Mansfield

General Manager, Arkansas Lumber Co.
Warren, Ark.

Cost of
Production
Closely
Watched.

In talking to you about the cost of producing lumber, hope I can analyze that part of it allotted to me, which covers from Log Pond to Sorting Chain in a manner that will make it clear and give you an insight into what it actually costs to produce the commodity you are offering for sale. Far be it from me to criticize the ability of any salesman, because you are all good. I know, for I tried to be one once, but the fact remains that the weakest department of our business is that of the Sales Department, and this is not all chargeable against ability, but more against methods. The principal heads of our business think nothing of giving consent to a reduction in prices of 25 cents to \$1 per thousand feet, and oftentimes the sales managers are told to get the business regardless of what it costs in cut prices, but if cost of production increases only a few cents—right then the big thing takes place.

We must not overlook the fact that a limit has been placed on the ground I am to cover, so guess had better get back where I belong, or I may be tramping on the other fellow's toes. Anyone in charge of a lumber producing plant figures cost continually and then never satisfies himself, or his stockholders. "It can't be done." In talking of cost from Log Pond to Sorting Chain, we had best begin with the pond. We find the logs have been placed in the pond and it is up to us to get them into the mill, on the log deck ready for the carriage. Some mills keep cost of pond operation separate from sawmill; others carry the two together. At some mills the logs are handled by contract; a stipulated price being paid, which varies from 6 cents to 10 cents per thousand feet. Other mills have their ponds operated by the day, paying each man a certain daily wage. To arrive at cost per thousand feet the sawmill deck scale is used. By this we mean the total cost of operating the pond for a given period—say one month—is divided by the number of feet cut by the sawmill for the same period, and in that way you arrive at the cost per thousand feet for that month.

Conditions have to do with pond cost. If logs are small and run strong to sap, they sink almost as soon as they strike the water, and this brings into use the sinker boat, which is necessary to float these logs to log chute, where they are released from the boat and sent up into the mill. Logs of this character are more expensive to handle than large logs with less sap, which float high and are easily floated to the chute. Another pond expense that does not come at regular intervals is that of cleaning pond of accumulation of bark and sunken logs, which were not picked up by the sinker boat. To do this it is often necessary to drain the pond of all water and refill after pond is clean. Regardless of how it is done, it costs money and from one to three thousand dollars. This pond cleaning cost is generally in excess of the usual daily operating cost and is not always shown on the cost sheet.

**Small Logs
Expensive
to Handle.**

The next item of expense is handling the logs on the deck. I might say here that this is a part of the sawmill cost and like other parts of the sawmill, is considered as part of the whole sawmill operation as far as computing cost is concerned. This may not be true of all mills, but think it is with a majority of them; hence, we do not know what the scaler, filer, sawyers, edgemen and other labor cost per thousand feet per day, month or year. However, this would not be hard to compute to show these costs at any one mill, but to give you an average of the mills in the producing territory would necessitate the gathering together and compiling figures, which I did not have the time to do. Foremen, filers, sawyers, edgemen and trimmermen are the most important as depends upon them the amount and quality of lumber produced each day. (Quality referred to here means quality of manufacture and not natural defects.) However, the sawyer has to do with natural defects and unless he understands all kinds of defects and knows how best to saw the log to get the most good lumber from it, he will not get the best results. Some sawyers are required to cut for quantity regardless of quality and by so doing produce more lumber in a given time, which would mean less cost per thousand feet, and would also mean less average price for the lumber produced. The sawyer who is instructed to saw for quality will produce less lumber than when quantity alone is considered, but lumber that will sell for a higher average price and enough higher to more than cover the difference in cost of production. The same reasoning will apply to the edgeman and trimmerman. From the best information I have, it costs, from the time the logs reach the

**Factors
in Mill
Costs.**

deck until the lumber passes the trimmer leaving the mill, from \$1 to \$1.50 per thousand feet.

In looking over the figures covering the comparative cost of shipments prepared by the Southern Pine Association, and covering a large number of mills, the following amounts cover the cost of sawmill manufacturing. These figures cover a three months' period during January, February and March, 1916, inclusively, and are per thousand per board measure.

Association Figures on Saw Mill Costs.	Operating labor, log pond to sorting chain.....	\$ 1.562
	Depreciation on the plant.....	.698
	Taxes.....	.240
	Insurance (fire and tornado).....	.162
	Insurance (liability).....	.041
	Office expenses.....	.205
	General expenses, including overhead.....	.436
	Interest on 50% of capital invested in the business at 5% .....	.984
	Add to the above figures the cost of logs in the pond for the same period, which was.....	7.141
		<hr/>

The total cost of green lumber on the sorting chain was\$11.469

In closing wish to say that all mills do not use the same methods of figuring cost, hence do not get the same results. The Southern Pine Association is making a strong effort to have all its subscribers figure cost on same basis and by so doing get at final figures in some way, which will enable comparison to be made. This uniform cost accounting undertaken by the Association should have the support of every subscriber. Let me suggest that the more you salesmen know about the cost of production, the better equipped you are to sell lumber at a profit and that is what is necessary to make the producing and marketing of Southern Pine Lumber successful.

The Need
of Uniform
Cost
Accounting.

The Yellow Pine Shingle

By J. H. Eddy

General Sales Agent, Kaul Lumber Co.

Birmingham, Ala.

The yellow pine shingle constitutes a valuable by-product of our industry, which has been at once very badly neglected and very sadly abused. With a great natural market at the very doors of our mills, and with quantities of material at hand which could by a simple operation and at small outlay be turned into a product to perfectly meet this existing demand, we have failed to see and take advantage of our opportunity. But few of our well managed and well equipped mills have attempted the manufacture of shingles at all, and those which have done so have not as a rule seemed to realize the importance of the product, for they have not given due consideration to what is required of a roofing material, that they might meet these requirements, nor have they concerned themselves with the methods of application used by the consumer and his agents. Thus, while millions of yellow pine shingles have been manufactured annually, they have been produced by small, poorly equipped mills, and from inferior material, without any regard whatever for requirements. And these shingles have been applied in a most haphazard way, which could not fail to give bad results.

**A Valuable
By-Product
Neglected.**

We have not only failed to take advantage of a splendid opportunity to serve the public and benefit ourselves, but our neglect has given the substitute manufacturer his opportunity.

Happily, we are at last awake to the situation, and are now prepared to offer proper specifications for the manufacture and use of the yellow pine shingle, which we wish to lay before you, and which we believe will re-establish the product. The purpose of this paper is to discuss this project, and to enlist your co-operation in carrying it through.

For the purposes of this discussion, we may safely assume the existence of a sufficient market for our product; we may even assume a decided preference on the part of the home builder for this very product, the wood shingle. Wood has been his favorite building material since that time from which the memory of man

The Requirements for a Roofing Material.

runneth not to the contrary, and we have but to learn and to meet his requirements to retain this preference in future.

What, then, is required of a roofing material?

We find that to be acceptable it must be capable of producing a roof that is tight and durable, resisting reasonably well the attacks of wind, weather and time; that it must insulate against extremes of heat and cold; that it must serve artistic purposes; that it must be available at a reasonable cost; be easy of application and call for no extra investment in weight or strength of the structure it is to cover. Experience and observation have already taught us that our material meets every one of these requirements, and to a remarkable degree. History tells that shingles have been used as a roof covering from time immemorial, definite record existing of the use of shingles in England in pre-Norman times; many samples of these still exist, it is said, especially on the wooden towers and spires of East Anglia. We all know that the old-fashioned shingle of generous thickness, split or "rived" out of first class heart pine or cypress, has stood the test of time better than any other material available to the average home builder.

The Superior Points of a Shingle Roof.

The more modern sawn shingle, made from the same material, when of proper size and properly used, lasts a lifetime, and more; it makes a water-tight, durable, and highly artistic roof covering; it is easily applied; it is light in weight, calling for no extra strength in the frame of the building it covers; wood is the poorest conductor of heat or cold available for the purpose, and hence is most suitable for use in any climate; it takes stain or paint readily, making possible a wide range of treatment for color effect, as well as increasing the life of the roof. Lastly, the shingle roof may be constructed at a first cost lower than that of the cheapest of the substitutes which are comparable in point of service. The ultimate cost of the shingle roof is far below that of any of the materials offered in competition.

In point of comparison as to beauty and artistic effects possible with the different materials, all of our competitors fall by the wayside, except perhaps tile and slate, and these are so expensive as to be entirely beyond the reach of the average man, whose necessities we are discussing.

Of late years, as the result of the upbuilding of cities where our dwelling places are crowded together, a new demand is made upon roofing material; that it shall be fireproof, to minimize the danger of fire spreading from building to building. And here it is

that our careless methods, our failure to study requirements, and our ill-advised efforts to meet competition have recoiled most heavily upon us. Through the use of unsuitable material in the manufacture of shingles, and making them too thin and too wide, to say nothing of the crowning folly of kiln-drying them, we have laid our product open to criticism and attack.

**Ill-Advised
Efforts to
Meet
Competition.**

The substitute manufacturer was not slow to see this opportunity to discredit the shingle by charging it with the responsibility for a very heavy percentage of the annual national fire loss. He has spilled oceans of printers' ink in giving publicity to his claims for his own products, and his charges against ours; while we have made our usual mistake of sitting tight and saying nothing. We might have called attention to the fact that bad methods of application were more to blame than poor material and unsuitable sizes; that roofs should be painted when made of shingles, as is absolutely necessary with most of the substitute materials; that as a matter of actual fact, the biggest part of the fire loss occurs in the business sections of cities where shingles are not used, and where we have never recommended that they be used, while a very big part of the dwelling fire loss covers the contents, which would burn just the same in a stone house under a cast-iron roof, and which do burn daily in brick and stone houses, under roofs of alleged fireproof qualities. We might have mentioned flimsy construction, defective wiring, defective flues, and the light-hearted carelessness about fire hazards which is so characteristic of the average American city dweller. One or another of these last named causes is really responsible for probably ninety per cent of the fires charged to shingles. It will be observed that shingles are used almost exclusively on country houses, and in small towns, where the fire losses are very small, and that these shingles are almost never painted. This means that the hazards of human carelessness, of cheap construction, defective wiring and defective flues, which are greatly reduced or altogether lacking in country and village, are really responsible for the fires which are charged to shingles in the cities. It will be observed further that practically every conflagration which renews the outcry against shingles, starts in city districts where the shingle never was used; such fires consume everything—a concrete or brick dwelling yields as quickly as does the frame structure. There are innumerable instances of fire leaving untouched the frame building with shingle roof, while it consumes brick and slate or iron on either side.

**Shingles and
the Fire
Hazard.**

We had the best of the argument from a dozen different angles, but we sat tight and said nothing, partly because we were unorganized, and partly because there is not the enormous gross profit in our product which alone makes possible an expensive and unending advertising campaign such as the substitute manufacturer wages constantly.

The thing has finally gone so far that we are compelled to do something; inasmuch as some of the cities have been induced to pass ordinances prohibiting the use of the shingle, and the fire insurance people are working with the substitute manufacturer to put us out of business altogether on the shingle proposition. What we lack more than anything else is statistics compiled by some capable and unbiased agency—such as might be established by the Government for instance, and which would not only ascertain the facts, but publish them.

Fortunately it is easy to demonstrate the comparative fire-resisting and wearing qualities of properly made shingles, properly laid, and of the composition stuff urged as a safe substitute; and it is easy to point out what constitutes a properly made shingle and how it should be laid and treated.

Tentative specifications covering all of this have recently been adopted by the grading committee of the Southern Pine Association, copies of which have been distributed among you, and we will refer to these in detail in a few minutes; we ask that you study these specifications carefully, and give us the benefit of your suggestions, also that you aid us by giving this information the widest possible publicity, that the consuming public may know exactly what to demand in the way of shingles, and methods of roof construction. The paint manufacturers are co-operating with us and will put on the market suitable mineral paints properly labeled, while the engineering department of the Association and the Forest Products Laboratory are working out formulae for chemical treatments which we believe will be equally effective in making shingles fire-resistant, and to a higher degree than is or ever can be true of rags and paper covered with tar.

Our specifications covering the manufacture of shingles and the construction of shingle roofs rest upon careful inquiry, experimentation and observation; we believe them to be sound and adequate; they provide for shingles of thickness and width designed to make a tight and durable roof when properly laid, one in which shingles will not curl or crack, and which when properly

**The Time
Has Come
for Action.**

**New Speci-
fications for
Laying
Shingles.**

painted will prove as nearly fireproof as it is possible to make roofing material, and keep it within the reach of the average man.

What we have to ask you is that you study this subject closely, and that in your home towns and wherever you go, you give publicity to the facts about the wood shingle. You will find sympathetic listeners everywhere, for the public likes the shingle, and has been led to view it with suspicion against its will, if at all. Tell the house owner who has been made afraid of that great, big bugaboo, old "sparks on the roof," that a good coat of mineral paint will fix him up if his roof is reasonably sound and well laid; tell him to ask his city government for an ordinance requiring that shingle roofs shall be constructed under our specifications, which will serve every purpose of public safety, and conservation of property, instead of interfering with individual rights so dear to the American heart, and enacting class legislation in favor of a certain group of manufacturers. Tell the citizens and the local legislators of every city that the greatest single thing that can be done to aid in the upbuilding of a great city and the advancement of all of its people is to encourage to the greatest possible extent the building and owning of homes by its citizens, and that anything which retards in any degree this tendency will inevitably prove detrimental to the growth and permanency of that city. To encourage home building it is necessary to place within the reach of the home builder at the lowest possible cost, the most suitable, desirable and artistic home within his means. The use of any other material than the shingle as a roof covering for the modest home is to decrease the desirability of that home while increasing its cost; there is no known roofing material that can take the place of the shingle, except at greatly increased cost, in usefulness, permanency and beauty.

**The Public
Likes
Shingles.**

**Facts for
Shingle
Users.**

Why *the* Salesman Must Know Grades

By W. J. Haynen
Chairman, Grading Committee
Southern Pine Association
Hattiesburg, Miss.

The subject assigned to me is a very large one and probably more important now than ever before, on account of the keener competition, not only between various other kinds of woods that are marketed in the same market as yellow pine, but, also, on account of the increased use and advertising of substitutes.

The attack that has been made on wood construction in all parts of the country by the different building codes has also added greatly to the decreased use of lumber, and it becomes necessary for the manufacturers of lumber to take some active steps to at once bring about a change in this condition of affairs, and to educate, not only the architects, builders, contractors, but the general public, concerning the uses of our wood. That is one of the reasons the Southern Pine Association came into existence and made rapid progress in its work. That is the reason that that Association, through its grading committee adopted for the use of yellow pine timbers what is known as the "Density Rule," simply and purely to educate the people into a method to be used to identify and grade the timber so as to increase its sales. Not alone did the public need the education, but manufacturers, and the salesmen of the manufacturers require a lot of this education; that is why you are here today attending a SCHOOL OF SALESMANSHIP, and I will say very plainly to you now that if, as salesmen of yellow pine lumber, you do not increase the sales of your product at least as rapidly per capita as the increase of population a great many of you will shortly be seeking positions in other industries because there will be no room for you in the lumber industry. It is a very lamentable fact that the lumber consumption of this country has declined 50 board feet per capita, or 10 per cent in the past ten years. Who is responsible for this? You may say it is the manufacturer—he will probably reply it is the other commodities that come in competition with yellow pine, but it does not matter who

Causes of
Decreased
Use of Lumber

Duty of the
Lumber
Salesman

is responsible, we have got to correct it, and you have got to give close attention to the work of this meeting and take advantage of what is brought out in this meeting, so you can change this condition of affairs. You are partly responsible and it is to your direct interest to bring about an improvement in this condition just as quickly as possible, and make an increase in the use of lumber.

With the present prices of steel and iron and all other commodities that come in competition with wood for building purposes, brought about mostly by the large increase in the cost of manufacture of these substitutes, your path along these lines should be a great deal easier than formerly, but to be able to do this in a most intelligent and satisfactory manner and to be successful in the end, there are several things you will have to do before you can expect any result from this co-operative work.

**High Prices
of Competitive
Materials
Help**

You have heard almost daily a great deal in the past year or two about Preparedness, that is preparing this Nation for any eventualities that may overtake it, either in war, commercial competition, or in many of the duties of our Government. You, as salesmen, and as sellers of yellow pine should adopt that motto of Preparedness and prepare yourself so as to meet the conditions as they come up in the handling and selling of this product; and if you do not the yellow pine product will become a pauper product and no one will care about representing it.

The Southern Pine Association has been working along Preparedness lines for the past eighteen months for the benefit of the lumber manufacturer, both large and small, and if you have not taken the full advantage of their activities you have failed to prepare yourself and, consequently, you are headed for the rocks.

**The Association
Practices
"Prepared-
ness"**

This meeting has been financed and organized, not only to help the industry, but to help every employee connected with it, and among them, are you. The organizers of this movement cannot do it all, and to make a success of it they must have the earnest and intelligent co-operation of everyone connected with our large industry, and as you are the direct connection, the agency, between the manufacturer and the consumer, there is no one connected with this industry that has greater power or greater opportunity for presenting and scattering this information through the length and breadth of the land, and after you have thoroughly understood the efforts of the Southern Pine Association, and had a perfect knowledge of the product that they are working so earnestly and intelli-

gently for we should be able to reflect a great deal of improvement, both in the consumption and the marketing of our product.

The Southern Pine Association perfected and made the present very simple and satisfactory rule called the "Density Rule" so as to increase the use and the sales of lumber. In this they have been assisted by the United States Forestry Service and the American Society for Testing Materials, and this rule is endorsed by both of these bodies, and with this endorsement it stands out as the most perfect rule to grade Southern Pine timbers by, and you should never have to apologize in the use of this rule in either the selling or inspection of timbers.

**Do You Know
the Density
Rule?**

They have printed tons of literature on this subject. They have spent thousands of dollars in postage to get this rule and all its benefits before you. The manufacturer outside of the Association has done the same, and I would like to ask each and every one of you. Do you know and can you grade timbers under the "Density Rule"? If you cannot, all our labor has been lost, and you are not going to be successful in selling and marketing timbers under it unless you are thoroughly acquainted with it. Your timber sales will fall off and your employer will state you are a failure in your business.

He may not discharge you, but he certainly will not increase your salary and as his business decreases your success in your chosen field of business will be very small indeed, and if you do not know the grades very thoroughly as established by our Association, my advice to you now, is that promptly at the close of this meeting you so notify your sales manager or the proper officers of your company and request him or them to take you at once to the mills, there to let you remain until you do know them, and become thoroughly acquainted with grades and manufacture of timbers. It does not matter how long it will take to learn them; it does not matter what difficulties are placed in your way, learning them will be the only way you will be able to talk intelligently and sell yellow pine successfully in the face of the competition from other lumber and substitutes.

There is not a man living that can successfully sell a commodity or product like lumber unless he is thoroughly acquainted with that commodity or product from its initial point of production to its final resting place in the building, structure or whatever it may be used for. He must not only know about its growth, but he

**Thorough
Knowledge
Essential
to Good
Salesmanship**

must know its cost, its grades and its entire process of manufacture.

Do you receive, and do you read, and remember, and put into daily use, the data furnished you by this Association through its officers and through the officers of your company? If you do not, you had better get busy and change your course, because it is necessary. Do you know the timber and grading rules thoroughly enough to be able to tell the prospective customer or builder what grade he wants for the purpose intended? If you do not know this how can you sell them?

So go and learn the grades of timber and lumber and see how much better you are able to do, see how much better you are fortified to defend lumber when it becomes necessary, see how much better able you are to talk lumber and, greater than all, you will quickly see how much more lumber you can sell. You will become a much more valuable man to your company and in the end you will secure personal benefits, progress in your work, increased compensation and the satisfaction of knowing that you have done a good job. Your employer will also benefit through your increased knowledge, but remember, until he does get benefits you will not get any, and if his business goes backward you will go backward, too.

Also, state honestly and definitely what you can furnish, both as to grade, quality and delivery, and you can only do this by keeping in close touch with the mills at all times. Never be afraid to request information that you should have.

**Keep in Close
Touch With
the Mills**

The manufacturers of this product have awakened to the fact that if they get the best results they have got to keep you posted, and while there may be a few here and there that are working along the old lines, they will change or go out of business. By getting this information and improving your minds you will become a lumber specialist in all of its branches and ramifications, and you will cease being a lumber "peddler" or order getter only.

Never be afraid to condemn the use of yellow pine if it is not fitted for the purposes intended—say so, and do not sell anyone yellow pine that will fail in the object that he or they want it for. You may lose one sale, but you will greatly increase the respect and make friends for our industry which will increase its sales, and if this policy had been carried out in the past with intelligent co-operation between all branches of the industry we would not now be able to provide enough of this product to take care of the demand. Instead of this, what have we done? In the past its

**See That
Yellow Pine
Is Properly
Used**

uses have been abused badly and the consequence is many people will not use lumber and we have, as stated before, a decrease of nearly 10 per cent per capita in the past ten years.

Yellow pine timbers are the best timbers in the world for building or structural purposes. This is fully acknowledged by all reputable engineers. Architects are willing to recommend them at all times, provided they can get the grades required. Yellow pine timbers show a greater strength than any other wood; they show greater durability if the manufacturer will ship according to grades established for this purpose. That is what the "Density Rule" on timbers was for, and you, as salesmen of this product, must thoroughly learn the rule and establish it so as to market your product and increase its uses.

We have five distinct grades of timber:

Heart Timbers,
No. 1 Common Timbers,
Square and Sound Timbers,
Merchantable Timbers,
Select Structural Material.

I am not going to read you the rules of each grade.

It is just as much your business to be acquainted thoroughly with these rules as it is mine or any other manufacturer. If you do not know them, you had better get busy and learn them. If you do know them you had better study them and find out more about them. Each and every one of these grades will fill a suitable purpose in the building line.

An inferior grade will not successfully take the place of a superior grade if substituted. You should not and must not sell a grade of timber that will fail in its intended use. If you do this you have hurt and you have helped to demoralize the industry and to decrease the use of lumber on account of its failure.

So in closing, let me give you this advice:

First—Learn the grades thoroughly.

Second—Preach the use of wood, especially yellow pine.

Third—Be honest with your employer, your customer and your competitor.

Fourth—Establish and keep in operation a constant supply of information between the sources of production and consumption.

Fifth—Utilize this information when you get it, so as to increase the consumption, so to bring prosperity to the industry as a whole, which will in the end bring more prosperity to you.

**The World's
Best Structural
Timbers**

**The Right
Grade In the
Right Place**

The Merits *of* Wood *and* Its Limitations

By E. A. Sterling

Manager, Trade Extension Department
National Lumber Manufacturers' Association
Chicago, Ill.

Wood has many merits which were discovered in the early days of civilization. These remain unchanged because the material itself is the same. The only great difference is in the manner in which wood is used. Customs and manner of living have changed, bringing similar changes in the uses of wood, but not influencing its merits.

Wood first has the merit of being available nearly everywhere. This was one of the reasons it became the almost universal material for the shelter and protection of mankind. The distribution of trees has determined the fate of empires. Where forests have been cut and destroyed, and the land has become barren and unproductive, people have had to move elsewhere. Regions which were once thickly populated are now almost abandoned because the trees, and with them the water, the soil and the building material, have gone.

**Treeless
Regions
Saved by
Railroads.**

Today railroad and other transportation facilities tend to prevent such close utilization of the immediately available wood. It can now be shipped from places where it grows to regions where it is used. In our own country the treeless West does not suffer especially because few trees grow, since lumber is shipped in from other regions. The same merits create a demand for wood whether it is used where it grows or elsewhere.

Another merit which always has and always will make people want to use wood, is that it is easily cut and shipped. Stone is hard to make into blocks, is heavy to carry, and for simple structures is not so convenient to use. Brick and the many other products made of clay, are serviceable and have merit, but they are more difficult to make and use than wood. Trees can be cut down even with primitive tools. They can be fashioned into implements, weapons and many other forms. The merits of workability applies especially to the individual worker or builder who wishes material which he

**Wood's
Workability
Appeals to
the Individ-
ual User.**

can fashion with his own hands. The early settlers simply felled the trees and with rude tools piled the logs into strong, substantial cabins and stockades. The same workable feature applies all down the line and into wood-working establishments. The log house of the settler has been replaced by the frame and board house of the present times, simply because it was found how wood could be worked into many convenient forms by machinery.

Lightness and strength are other merits. Wood weighs less than any other commonly used building material. It can be transported cheaply; can be lifted and carried without difficulty by workmen, and when placed in a building or structure, does not tend to break it down by its own weight. Even with this merit of lightness it has greater strength, weight for weight, than iron or steel. It not only will carry heavy loads, but it gives and bends before it breaks, and usually gives warning before an actual fracture occurs. As an example of present application of these combined merits of lightness and strength, it has been found that railroad trestles in some cases when constructed of steel and concrete are too heavy. To carry even the upper portion or deck very strong supports are necessary, even before the weight of the trains or locomotives is considered.

Wood possesses another advantage which exists in few other materials. This is in connection with heat and cold. We often hear it said that wooden buildings are coolest in summer and warmest in winter. This is for the very simple reason that wood is a poor conductor of heat, and by the same token a poor conductor of cold. In other words, heat does not readily pass through wood, because it is porous, and the dead air spaces are the best possible non-conductors. Some experiments conducted in Europe showed that a frame house with 7/16 inch clap boards, building paper, sheathing, lath and plaster was equivalent to a 20-inch sandstone wall. Such a wooden wall retains heat much better than a brick wall or any other mineral building material.

Then there comes a merit which especially appeals to every one, and that is the beauty of wood. The wonderful grain which can be brought out with proper finish, the softness of texture, and the varying effects appeal to every one. Moreover, it is not necessarily the prominently grained woods which make the strongest appeal for beauty, because one tires of extreme effects. Just plain, everyday wood, as it is used in millions of homes, gives continued satisfaction

**Lightness
Combined
with Strength.**

**The
Superior
Beauty of
Wood.**

because it is restful and seems to have an intimate relation with the individual who lives with it.

Among the many other merits might be mentioned the adaptability of wood as a building material. It can be used for a greater number of purposes than any other material, and it seems to be just the proper thing in the majority of cases. The factor of cost is also an important one, which explains why the strongest competition fails to replace wood as the universal building material. The large supply may also be considered a merit, because the best information shows that there is enough timber still standing to supply the needs of the nation for practically all time if it is properly used and conserved.

In considering the merits of wood we should not shut our eyes to its limitations. Like all good things, it is not perfect. Every one knows that wood decays when exposed to the weather or in moist situations. In fact, even in the interior of buildings, where moisture is present only in the air, some forms of decay develop. This, however, is a limitation which nearly all materials have. Iron rusts, brick and stone crumble, and it is only a question of proper protection which determines which material lasts the longest. The public in recent years has heard much about the fact that wood burns, and unquestionably it does. It is fortunate that this is so, because thousands of homes are still warmed in winter because wood burns, and it was not many centuries ago that wood was practically the only fuel known. When placed in a building wood continues to burn. It is also a fact that brick buildings, or stone buildings, or concrete buildings also burn, even though the materials themselves may not be actually consumed. The sensible point of view on the fire question is that carelessness should be eliminated, and that wooden buildings should be constructed with every possible safeguard. In the majority of cases it is the contents of the building which furnishes the principal fuel for the flames, rather than the building itself.

**Some
Limitations
of Wood.**

In itself wood has really no serious limitations, if properly used. To be sure, it checks in drying, and expands and contracts to some extent in different temperatures, in addition to the fact that it burns and rots. If these points are not considered and wood is used on the assumption that none of these things would happen, failure would naturally result. These points, however, are usually fully considered, and the actual limitations are determined by proper or improper use.

Of Importance to Salesmen of Wood.

As applied to present day salesmanship, the point to be emphasized is that wood may have merits or limitations, according to the way it is selected and used. The merits may easily become drawbacks if proper consideration is not given to the character of the material. For example, the consumer should never be allowed to buy a wood which quickly decays for use in a place where conditions are favorable to decay. In buildings where strength is required, in posts and beams, strong wood should be used. At the same time, there are places for the inferior woods and lower grades, and the big duty of every man who represents the lumber industry is to help teach the consumer what these proper uses are.

Another phase of present day use of wood is to treat it so that it will serve successfully some of the purposes for which it may not be fully adapted in its natural state. Creosoting, as every one knows, prevents the rotting of wood; fire retardent compounds keep it from burning where such protection is necessary; proper seasoning does much to prevent checking and warping, and is also helpful in preventing decay; while proper painting and finishing help make woods useful and beautiful.

Lumber Salesmen Should Know All About Their Product.

As a last analysis, the merits and limitations of wood are relative terms. A merit may be turned into a limitation, or a limitation may become a merit if full knowledge is applied and proper judgment used. It is frequently said, and with much truth, that the lumbermen know less about their product than the men who sell other materials. If this is strictly true, it should be corrected, since the people who produce wood should know about it in order to teach the consumers who are not expected to know the details. A good lumber salesman will master all of the points relating to the merits and limitations of the product he sells. He should not only know all about wood, but why he knows it. If a consumer points out limitations the salesman should be able to tell him how to turn them into merits. At the same time he should be reasonable and not advocate wood for all purposes.

The slogan of "Wood Where Best" can be safely followed in all cases. It is unwise to recommend wood where it is not safe and economical. We would not build skyscrapers of wood because it would not be safe or permanent. The same reasoning can be carried down the line to the details of smaller structures. A concrete foundation is recommended under creosoted wood block; stone or concrete foundations are put under barns and homes; brick ex-

terior walls are placed on heavy timber mill construction buildings, and in all of these situations wood should be recommended only where it is best, and the salesman should know where this is, and why.

Judging *the* Order

By Frank R. Watkins

General Sales Agent, Missouri Lumber
and Land Exchange

Kansas City, Mo.

Lumbering, the second most important elemental world's industry, combines its producing and selling departments into closer relationship with each other than any of the other three fundamental industries. It is not customary for farmers to complete and finish their products ready for the market, or to deal with the groceryman or the consumer. Not many mine owners are to be found who transform their ore through all processes into stoves, steel rails, or silver dollars. A number of the various functions between the raw material and marketable product, including selling, are in the hands of middle men or other parties not directly interested with the securing of the raw material in agriculture, mining and fishing.

**How the
Lumber
Industry
Differs from
Others.**

It is practically the universal practice, however, in the lumber business that every step between a tree and finished lumber is within the control of the same men, and this includes the actual selling process. The lumbermen's own sawyers fell the trees in the woods, their own streams transport them into the sawmill, their own sawmills work them up into suitable rough sizes, and the further stages of manufacture are carried on under their own supervision and in their own plants until it is ready for use.

It is strange, with this perfect line from production to distribution, that lumber markets should suffer such violent fluctuation; but we will all have to admit that the path must have been too smooth in the past and we failed to provide ourselves with the heavy soles of education for modern roads.

The man who sells machines or typewriters knows a surprising number of facts about the minute details of manufacture, and

doubtless it would be found that the manufacturers and producers of these lines were more or less familiar with the troubles and obstacles of distribution. The lumber business has the whole management within its own hands, and it does look as if a practicable working knowledge of the operations of manufacture by the salesman and some education in salesmanship for the producers would give us gratifying results.

As this paper is supposed to confine itself to the main line of the subject—judging orders—I will not attempt to venture many remarks about giving our mechanical departments an insight into the mysteries of practical salesmanship, excepting to say that I consider it one of the vital duties of every salesman to carefully watch the trend of demand in his territory so that he may indicate to the producers through his sales department certain tendencies of inquiries that would help the manufacturing end to put onto the stock sheet the most of the kinds and grades wanted at the proper season.

While observations of various salesmen lead me to believe that it does not necessarily follow because a man has been long experienced in a manufacturing end of a business that he will naturally turn out to be a good salesman, it is true that a really good salesman will have the important facts of the details of manufacture well in mind and know the things that cannot be done and those that can be done most easily.

It is well known that no matter how expert or skillful our manufacturers may become in their art, a tree cannot be “moulded” entirely into the shapes, lengths, sizes and grades that might be demanded. Certain characteristics of the timber, defects, size of trees and operating conditions are involved in the processes of manufacture to such an extent that while it is surprising how much can be done; nevertheless, we have over-productions of some materials and under productions of other items. As a consequence, our sales department finds itself with some stock at nearly all times that the trade does not freely absorb. We have to force the movement of this stock with every device of salesmanship, at the same time holding in check the demand for the staple items, spreading them carefully over as large a number of orders as we can to reap the greatest benefits for the mill out of what desirable items it may have.

Every order received has a various degree of acceptability to the mill for which it is figured. Quite a sprinkling of bad ones come in, and lots of good ones; and it is probable that all sales

**Salesmen
Should
Watch
Trend of
Public
Demand.**

**Acceptability
of Orders
at the Mill.**

departments measure the ability of their salesmen by the volume they get, the price they get, and last but not least, the kind of orders they take. It seems imperative that something be done to educate ourselves and our salesmen as to the best methods of getting as nearly perfect orders as are obtainable.

If we could devise some clerical system that would weigh the merits and demerits of every order that came in, thus accumulating the net result of the standing of each salesman in a single figure at the end of each month, we would likely grade the order under divisions something like this: Price, adaptability to stocks, credit of customer, number of items, and clerical work.

You will observe that volume has been omitted from the rating, and this partly because we are considering the single order now, and partly because I firmly believe that if we could to some extent lose sight of volume and put the emphasis on other points it would be an improvement.

The consideration of price can be passed over lightly, not because it is unimportant, but because it is so important that special emphasis is unnecessary. I wish we could have a single invariable one-price basis so that our salesman would not have to spend so much time thinking about it. It may come in the future.

In grading orders, the adaptability to stocks is the most important point of all. Every sales department can lay out from its files one hundred orders, and every one of them, for some reason or other, will have a different rating or value to the mill than any of the others. The orders that call for stock the nearest to the way the mill has it proportioned is the most valuable. An order for a straight car—one item, one length, one grade, may not rate as high as another order for several items or for two or three grades, because the straight car order may not fit the stock sheet perfectly, or may absorb all of one length leaving the balance unproportioned, while the other order may take up the stock in the same proportions as it is shown on the stock sheet of the mill against which it is figured.

A good many salesmen, and especially customers, are always maintaining that there should be a substantial difference in the price asked for a straight car and that for the mixed car orders. Perhaps with some small mills under certain conditions this is true, but for the big mill, operating practically full time with full crews, there is a great deal *less* difference in the cost of filling mixed cars and the cost of filling straight cars than is generally supposed—pro-

**Volume Not
a Factor
in Grading
Orders**

**The Most
Desirable
Order**

vided, of course, the orders fit stocks. Therefore, I am not so keen about the merits of straight car orders as I might be, at least some of them. They may prove to be enough harm to the condition of your stocks to overcome any small gain in shipping costs.

**How One-
Size Orders
May Cause
Trouble**

To illustrate this point, let us assume that you are one of twenty salesmen and have received a stock sheet showing at one of the mills a total of about a carload of 1x12—16' No. 2, along with practically the same proportions—or a desirably proportioned stock of other lengths—and you have an inquiry for a car of 12"—16' No. 2 and your customer is willing to pay our asking price. Because you want an order pretty badly, you take this car and send it in to your mill. As this order moves all the 1x12—16' No. 2 they have in shipping condition, they send out a circular to the nineteen other salesmen composing the organization asking them to cancel from their stock sheets eighteen or twenty thousand feet—whichever the amount may be—of 1x12—16' No. 2, as the stock has been sold. Up to this point the sale appears to be a good one, and you have one car more to your credit at list price. The objection to this order appears later—after the other nineteen salesmen have received their instructions to cancel. Let us now assume that eight or ten of these other nineteen receive inquiries for 1x12—16' No. 2, and other lengths of that size and grade, and other stock to make up mixed cars. Each of these eight or ten men needed only three or four or five thousand feet of the 1x12—16' No. 2 to put them in shape to quote on their inquiries; but they do not have two or three or five thousand feet because the office has instructed them to cancel, and perhaps as it may be accumulating slowly, they have been cautioned not to sell the 1x12—16' No. 2. Under normal running conditions most salesmen would not turn down an order for as small amount as two thousand feet missing from the stock sheet on such an item as 1x12—16' No. 2, which is a stock item, but whether they did turn down the orders or accepted them, there would be an objection there; either that eight or ten salesmen lost a car each or more, or eight or ten salesmen did sell a car each or more, and caused the next stock sheet to show up with the 1x12—16' No. 2 in the red, or oversold. So you will see that if you do not cause the trouble at once, sooner or later you are going to develop it; and our experience has been that the facts of the matter are that we not only create oversales, but lose business as well. From this illustration, I would draw the conclusion that any order that substantially sells all of one length disregarding the proportion of

other lengths, or that sells such a large quantity of one length that it and a repetition of it would have a serious effect sooner or later on proportions, is an order which should be graded down theoretically lower than orders more closely adhering to stocks. 1x12—16' No. 2 is taken as the illustration above merely for convenience, not because that is at all likely to have been a troublesome item, but all of you appreciate the fact that there *are* certain lengths or sizes which seem difficult and slow of accumulation for your mills; and salesmanship that fails to take these things into consideration falls just that much short of the highest ability. I am using one order and one salesman and one car because the figures are easy to handle. If cases of this kind happened infrequently, it is true that little harm would be done, as the total volume of all items at most mills is beyond being affected seriously by one lone car. Neither do I intend to say that such an order as described, under such conditions as described, should be flatly refused in every case. I only maintain that there is a difference of value to the mills between all orders. Other circumstances which I have not mentioned are often injected into a sale, by which the salesman must be influenced in deciding what to do.

I know that in the automobile business where a manufacturer is building a small and a large model—a cheap and a higher priced grade—his contracts to his dealers read in such a manner that they are compelled to take and sell a certain quantity of the higher priced car, to secure the sales of a certain number of the low priced cars; and this trading is practiced to a greater or less extent by many salesmen in our business. You will recall some years ago an extra heavy demand in the West for 2x4—8's. They had a new silo they called the "Common Sense" silo they are building, and every dealer wanted to buy some 2x4—8's from every salesman who called. The proper handling of the salesman's stock of the 2x4—8's might net him four or five mixed cars—out of a possible stock of three or four thousand pieces—instead of letting one man have it in a straight car; and every salesman should be familiar enough with his territory to soon catch the trend of the demand, and apportion out his stocks where they do the most good. It is difficult to induce regular yard dealers to take a quantity of flooring, for instance, or ceiling, without any 16' included in it; where he might be talked into accepting a car with even a limited amount of the sixteen foot, if he could have some of it. If your mill didn't happen to have any sixteen foot at all and were forced to prohibit its

**Dealing
with an
Abnormal
Demand for
One Item**

sale, orders would be offered which you would be compelled to pass up because of this fact; and the original cause of it all, in most cases, was because at a previous time some one or several salesmen had pre-empted more than his share.

It is an essential part of a salesman's success to carefully keep himself informed upon the peculiarities of accumulation at the various mills for which he may be selling, so that in those instances where it does seem good judgment and policy to accept an order which will take more stock than the mill has, he can let it be an item that he knows is manufactured rapidly at his mill. It seems to me it is also an additional duty of every man, regardless of the nature of his territory, to assume some responsibility toward the disposition of over-supply. There is always enough surplus of some lengths or grade so that every man in every territory ought to have some small chance to do his part.

Besides selling regular stock in its proper proportions as the mill has it, salesmen are called upon to give consideration to a lot of odds and ends and miscellaneous droppings which are outside the standard requirements of the general run of customers. The ideal way to sell this special stock is to have a large number of salesmen each to assume a small responsibility for it, and include a thousand to five thousand feet wherever it can be sold. This stock is generally shown in a great enough variety so that salesmen in every territory have opportunities if they would just use their ingenuity to induce some customer to handle a little of it. In many cases it would probably prove a genuine service to the customer, enabling him to meet some competition he could not otherwise touch. At any rate, the quantity of odds and ends sold by any salesman, and the price at which he sold them would have a material bearing on his standing with any sales office.

I have tried to show above the relation of good and bad orders to the interest of one's own company; but I am wondering how many of us have ever thought of the effect of selling stocks not on hand on the whole distribution system of the lumber industry. Has it ever occurred to you that the ratio of supply to demand is affected somewhat? I believe it is, and will try to show why.

One of our salesmen wrote us one time that there were five hundred competing salesmen selling yellow pine calling on trade in his territory at that time. Perhaps his estimate was high, but no doubt in most territories a great many salesmen do call on each customer each month to sell the same class of stock. When it

**Keep
Posted
on Mill
Stocks**

**Disposing
of Odds
and Ends**

**Sales That
May Hurt
the Market**

comes to their stock sheets, they are all in the same boat with you; they have stock on which they are putting special stress and trying to move, and some other stock they are not so anxious to sell. Let's assume that one of these competitors is making a special drive on an item of standard stock on which his sales department considers the mill is carrying too large a surplus. We will say their supply is five hundred thousand feet, but it so happens that this very item is the one on which *your* mills are somewhat *short*. If this competitor could have the freedom of the road until he moved his five hundred thousand feet of surplus, we would have in the market just the actual normal stock of five hundred thousand feet; but instead of that, generally the way it works out is that you and others come along ahead of him and take a lot of orders during ten or fifteen days, aggregating a total of forty or fifty thousand feet of this item; notwithstanding the fact that your mills are a little short of it. You figure that you can afford to put in five or six or seven thousand feet in an order, even if your mills are short. It seems reasonable to suppose at the end of that time, however, instead of carrying just five hundred thousand feet the market bears the weight, not only of the five hundred thousand feet of surplus manufactured and in shipping condition, but fifty thousand feet more not yet existing, or five hundred fifty thousand feet because you fill the demand which your competitor with his over-supply should be allowed to fill. It certainly looks like an economic waste of sales effort. Of course, it doesn't always work out that your shortage is somebody else's surplus, but we have compared general stock sheets with other people enough to know that there are plenty of instances where it does happen to make it a pretty serious question; and I shouldn't be surprised—if it could be checked up—to find that a good many millions of feet of stock were actually duplicated in this way. Now, if we would only let this competitor go his way unmolested with his five hundred thousand feet of surplus, he would get a natural market price dictated by the law of supply and demand for his surplus, instead of a price dictated by an unnatural supply of five hundred fifty thousand feet; and besides, our customers would not be inconvenienced by having to wait for us to accumulate our fifty thousand feet shortage, and it looks like everybody ought to be better satisfied. Instead of spending our "steam" selling a shortage, we ought to be working on something else which perhaps our competitor does not want to sell. Circumstances alter cases, and I presume there are times when all of us think it is necessary to accept

**Better If
the Compet-
itor Could
Have the
Field**

this or that order, regardless of its merits, but our natural overproduction is sufficient to cause all the worry we want, without conjuring up any more out of thin air by so much of this kind of selling. So much for that part of the grading of orders coming under adaptability of stock.

Credit—Sales made to a customer with an indifferent or questionable credit rating are worth less than those sales made to prompt payers. The slow payer is not entitled to as low prices as the man who remits us our money quickly. There are, however, two kinds of credit objections; a man may be slow pay because of certain business difficulties and still be perfectly good and worthy of quite extensive credit; another man may be quite good pay, but his character such that he had better be left alone. He may not always pay promptly.

The number of items to the car in an order has some bearing in its rating, but the importance of it is less if the items are not too badly scattered and are well assorted as to stocks on hand. It must cost considerably more, though, to send the crew pottering out over a whole yard and through several rough sheds to pick up from five to fifteen pieces each of twenty-five to forty items to make up one car. Most mixed orders, where so badly mixed, cannot take the direct course from the yards or sheds through the planers to the car that is followed by the better assorted orders. Several different machines must be used on the badly mixed orders, and a little of this and a little of that accumulated in a pile or stacked in a shed some place until the whole order is gotten together and ready for loading. The prices used in selling such orders must be greater than regular prices to offset the extra cost. As I mentioned before, however, the difference in a mixed order—not too badly mixed, or with too great a number of items—and a straight car is not so much as some people think.

Last of all, I would mention in considering orders, the “pencil work,” or clerical work. The orders must be written up on some sort of a form to get them into our sales offices, and it is absolutely necessary, whether the salesman thinks he is a good clerk or not, to have the orders put on paper plainly enough and correctly enough so that expensive mistakes will not occur. I do not believe that a mistake is due to carelessness of a man’s brain; I don’t think a healthy brain makes mistakes. It is carelessness of the senses—your eyes look but do not see; your brain is not given a chance. But whatever it may be, it is certainly true that the amount of letter

**Slow-Paying
Customers
Should Pay
More**

**The Im-
portance of
Writing
Orders Care-
fully and
Correctly**

writing, holding up of orders, and actual dollars and cents loss due to simple mistakes is astonishing. It has been said the American people waste three hundred million dollars per year making and correcting clerical mistakes. Our sales offices check over and work through twenty to fifty times as many orders as each salesman averages daily. The sales office force watches the orders very carefully, but there is such a mass of work at times that occasionally something slips by. The misplacing of a grade, mistake in the size or length, or in a moulding number can develop easily into an amount of loss that would overcome a substantial average in price. If you will organize your work and follow some system of carefully checking back every item and phase of an order, a great many mistakes can be avoided, besides the saving of time and actual money loss and embarrassment.

This is the kind of a paper difficult to get up without causing the suspicion that the sales agents are a bunch of kickers and cannot see anything pleasant in any order; but such is not really the case. Nobody hopes for perfection yet; we realize that there are many obstacles for our boys to overcome in their work, and in the main—everything considered—the lumber salesman shows gratifying results, under his handicaps. We are here to try to raise some of the bars, and this meeting marks the beginning of a campaign of education along broad lines which is going to tend to lift us out of the ruts and put us all into motion towards the highest efficiency in our distribution scheme. We are all here expecting to have a good deal of criticism piled on us, and hope to make that criticism instructive and helpful rather than mere fault finding. You know the first thing to do towards correcting something that is wrong is to find out what is wrong. I am only anxious that this paper may give you an insight into some of the points considered by sales departments about the mechanical features of orders and salesmanship that will start such discussion in your own mind and with others, as in the end will prove helpful.

**Criticism
That May
Be Helpful**

How Best *to* Cover *the* Territory

By James H. Heyl
Eastman, Gardiner & Company
Laurel, Miss.

If your territory consists of one state or two, it is necessary for you to locate in some town and make this headquarters, where your house and your customers know they will be able to reach you at least on Saturday or Sunday. Try and locate about the center of the territory that you are expected to cover, provided it is a town that has enough facilities for getting in and out of readily. A post-office box is a necessity, for all your mail is important and if your postmaster is furnished with a route list showing where you will be each night, he will see that your mail reaches you on time, and a few cigars given to the box clerk from time to time will make you a very dear friend of his. Mine gives me a list of each piece of mail he has sent out during the week.

Before starting out Monday morning, take your railway guide and route yourself for the week. You will find that by doing this and doubling occasionally that you will make the most towns possible, and it will enable you to send out advance cards which will save some business for you from a friend who would otherwise give it to some other good fellow who beat you to it. An advance card ought to be something original. I once got the best results from a photo of an eighteen-foot shark on a card about eight by ten inches, until Uncle Sam made me cut its size down. This was twenty years ago, but I still see one occasionally that one of my contemporaries has saved.

In starting out on Mondays, remember that the early trains pull out of the Union station at six-thirty or seven o'clock. If you miss this train you are probably stuck till noon. Also, if you want to get home on Saturday in time to take in the ball game, you will probably have to catch another one of these early morning trains, and the result is the loss of a day and a half out of your week's work, or 25 per cent of your actual working time. Your firm away off in Arkansas or Mississippi might never know it, but, if you wish to look the world straight in the face, don't do it.

The Value
of Advance
Calling
Cards.

In laying out your route for the month, it is well to keep in mind that certain towns and certain sections of your territory are more busy than others. Iron might be booming—another town might have a lot of busy glass factories or be making bowie knives or bayonets, or a certain section may be opening up coal mines. It would be well to take in portions of territory like this every two weeks, and you can arrange this without much trouble or much additional cost for railroad fares.

We will suppose you have reached your first town as a stranger. You know from your red book that there are two or three yards, a planing mill, a buggy factory, and perhaps a factory making churns. You might have noticed, as your train was pulling into the town, that you passed a couple of pretty large brick plants of some description. It will pay you after you have called on the different concerns in your book, to walk back on the railroad track and see what these factories are making. One might be making incubators and the other tin cans. If this is the case, you will find they both use lumber and buy same in carload lots, and you might be fortunate enough to make a sale. I once walked out to a large hot house in Jamestown, New York, to see if I could work off a car of pecky cypress, the only thing in lumber I supposed they used. Well, bless your hearts, I found that while they bought three or four carloads of pecky cypress during the year, they bought about two cars of mill cull 4-4 poplar a month, D 2-S and resawn to make boxes of, and they were not well posted as to prices. They did not subscribe to the "Lumberman." Had I been more interested in yellow pine at the time, I think I could have persuaded them that, while perhaps they could not ship red roses in yellow pine boxes, it would improve the color of their Marchael Neils, and might put a delicate yellow blush on the faces of the pure white roses they were shipping, and I might even have told them that, if they would ship roses in yellow pine boxes, the odorous pine would keep out all bugs in transit. This thing of keeping my eyes peeled on pulling in and out of a town I find about the most useful accomplishment I have. The railroad tracks of a town are the short cuts always to factories. Those of you who work Detroit will bear me out in this. Now that all the hash houses in the country are getting to be Metropolitan Hotels, you will find a telephone in your room, they charge you ten cents to use the 'phone, but make no charge for looking through the 'phone guide. This usually has in the back of it a list of the town's in-

On the
Alert for
New Busi-
ness

dustries. It will pay all of us to look through these books. I am quite sure you will find one or two people listed here who use lumber. Take a city like one I make, how many concerns do we call on, twenty or twenty-five perhaps. Well, aside from the yards and planing mills, there are sixty-four factories that I know buy yellow pine in carload lots, twelve box factories that use yellow pine and sixteen builders' supply companies that use yellow pine lath. One hundred and sixteen concerns that I know of to call on, and I expect fully half as many more that I never heard of—and this town is usually worked in three days.

There are probably twenty jobbers located in this town and I know at least six or eight men who sell lumber on commission here and hardly ever leave the town. One young fellow I know making this same town told me once that he called on a few people, but the town was drummed to death. I asked him if he called on any of the factories and he told me three or four, but if he had to call on all of them he wouldn't have time to see his regular trade. Anyway, he said, this factory business ought to be a separate business from the regular lumber business. Well, I could tell you of two concerns who have made a separate business of it and grown rich doing it. Get a memorandum book and list these different concerns with the kind of stock they buy, and when they buy, and by keeping in touch with them you can gradually work in, provided always your sawmill will occasionally go to the trouble to get something out special for them, when they want to buy fifty or one hundred and fifty cars for delivery through the year.

**"Separate"
Business
That Became
Regular
Business**

While you are expected to cover your territory and see as many customers as possible in the week, don't hurry your men too fast, if you feel there is a possibility of landing an order. If you get the fidgets and keep pulling your watch out or following your man around the yard while he is waiting on someone, he will get nervous also, and take the first chance he can get to tell you he is not needing a thing, and so help you to make your schedule. The probabilities are that the next fellow who calls on him will get an order for a car of yellow pine and will be told that "Bill Smith was here this morning and would have had the order, but he was too anxious to make a train to give me time to see what I wanted," and this yard man will lay it up against Bill for a long time. In the larger towns you will find the buyer will like quick action, and

**Don't Hurry
the Customer
Too Much**

there are perhaps others waiting to see him. So, as they say nowadays, "Sit down, but don't intern until the war is over."

When you reach a town work it. In addition to the yards you know about, you will see factories along the railroad tracks as you pull into the town, and it will pay you to look them up and see what they are doing. I once found a box factory that I was told only used hard woods, making automobile bodies and using a good deal of yellow pine in them. I also drifted into a small factory in New York State that was buying first and second basswood to cut up into fan handles. This party cut up a car or two a month into little stock. Well, I persuaded him that the best adapted stock for this purpose was basswood lath. I saved him some money, found a place for something that was hard to sell, and raised the selling price \$1.50 per thousand for basswood lath. An iron foundry or a rolling mill would seem a poor place to sell yellow pine. Foundries still use some wooden flasks, usually 2x12's, and all large iron works have to use a good deal of lumber. All iron pipe stored in foundry yards you will find is piled on 2x4's or 4x4's, mostly of oak, but the time is coming when they can't get oak for this purpose. I saw a few days ago a mill making sheet iron, as I left the town, and I noticed that they piled all this material on 2x4's, first a layer of 2x4's then about eight or ten inches of iron, another layer of 2x4's and so on until the piles were ten feet high. I will see these people the next time I make that town. All iron plants, especially the large ones, have a great deal of crossing plank to furnish. This is also usually oak. There is no reason why good heart long leaf won't fill the bill, unless some fellow with sap pine gets a car in first and queers the game.

Call on your architect friend some day when you have the time. Get him to smoke a good cigar with you and find out how much he knows about yellow pine. You can help him out with suggestions, and incidentally help out the whole lumber industry, especially that portion cutting yellow pine.

One reason why I advocate a small territory was demonstrated a few days ago to my entire satisfaction. I had been trying to move a small bunch of No. 2 common car decking for thirty days without much success. Last week I was in a small town for the first time in ninety days. I saw a foundation for a steel plant going in, which they were building of concrete that from the car seemed to be about eight by ten feet square. I had a talk with the lumber dealer and found that this was the case. My decking

**Finding
Markets in
Unexpected
Places**

**The Advan-
tage of a Small
Selling
Territory**

would have filled the bill where they had bought sixteen and eighteen foot stuff, and could have been sold to the dealer at a price that would have netted him a good profit, and I could have moved every foot. Had I been getting around every four weeks I would have known all about this job long before the concrete piers were half way up.

Where one has a limited territory it should be an easy matter for a salesman to make a list of, first, all the retail lumber yards, with the names of the buyers. It is a well known fact that when you walk into an office and ask to see a certain person you will usually get to see him promptly, or be told when you can see him. Not having the name of the buyer and no acquaintance in the office, it will frequently happen that someone who knows nothing about the matter, will tell you that the man you want to see is too busy, and does not need any lumber, for they heard him tell two or three men this earlier in the day. When I meet up with this kind of talk, I frequently say, "I have made a special trip to see this gentleman, we have had more or less correspondence, give him my card and tell him I am holding down the chair till he can find time to see me." This usually results in my getting an interview. Next in order, list the planing mills, box factories, builders' supply houses, etc. In addition to keeping this list yourself, send your house a copy. They might move you to more desirable territory, and have occasion to put a new man in your place, and this will enable him to take up the work intelligently and save him a lot of time and trouble.

These different concerns should be listed under the names of the towns arranged in alphabetical order, with a cross index showing the character of the business done by them. You will find and should list certain yards that specialize in odds and ends and the character of the stock they buy. And if you are unable to find them it is quite possible to create them by keeping in mind the fact that every piece of lumber about a sawmill has a certain value and a place where it is possible to use it. It would also be a good plan to keep a complete record of your orders, showing the price received for certain stock. The way the order was handled by your mill as to promptness in shipping, quality of stock, etc. If the mill delayed shipment, why? So you can give this information to your customer and make him feel that you are taking a personal interest in all business he turns over to you. You can be sure that if your shipments are unreasonably delayed

**Records
That Are
Helpful.**

that your customer will not give you a rush order, and at certain times of the year a good many orders are of this character.

In addition to actually selling lumber, I imagine your firm in hiring you had some other things in view that you might do. They wanted someone to do the thing we say so glibly when we meet a buyer for the first time, viz: "I represent So-and-So." Have you ever given this requirement much thought? Your new would-be customer will certainly size you up closely the first time he sees you, and just the personal impression he gets from you will be the way he will think of your firm. If you give him the impression of being uncouth, sloppy in appearance, rather loud and vulgar in talk, he will be more than apt to ask the next traveling man he knows what kind of a firm does that fellow represent, anyhow? So you can help cover your territory best by leaving a good impression wherever you go.

**The Effect
of First
Impressions**

Perhaps your firm also had this in view when they put you in certain territory. They wanted correct information as to actual conditions. Remember, you are the soldier on the firing line. you are seeing the things your general can't see and if you give your general false information, he will more than likely make bad mistakes. Here is an incident of the sort I mean, and I find it is rather a common occurrence. A gentleman friend of mine told me a few days ago that a salesman called on him and offered certain stock at a price slightly under the market. He did not need this stock and was not very quick to grab. Mr. Salesman, who was watching him closely, said: "Say, I've got a proposition to make to you. You make me a firm offer for two cars of this stock and shade my price a dollar. I will wire my house and tell them you can buy this stock at this price from other people, and I think they will tell me to take your order." (You will note I said above a gentleman friend told me this). My friend said: "I won't do anything of the sort, for I have had no such offer." Not many, perhaps, would have done this, but what do you think of the salesman? Suppose you wanted a hat, and a clerk said: "The price is \$4, but wait a minute till I run up and see the old man; I expect he will tell me to take \$3 for it." I expect you would wait, or walk out to the front door and see if the name on the door was Eicklestein or Levy.

**A Poor
Way to Sell
Lumber**

To sum up in a few words, work your territory honestly and thoroughly—make your customers glad to see you if they want

lumber or not—and remember that the man who finds a new use for Yellow Pine and broadens his market is the fellow who is best covering his territory.

Decay of Yellow Pine Lumber and Methods for Preventing Same

By Dr. Hermann von Schrenk
Consulting Engineer, Southern Pine Association
St. Louis, Mo.

The great majority of living yellow pine trees are usually free from destructive diseases so far as the trunk from which lumber is cut is concerned. As the yellow pine tree approaches maturity and beyond an age of 70 years or more, some trees are attacked by one or more diseases which result in the decay of the heart wood. These types of decay are usually called "heart rot," and are due to various low forms of plant life called fungi, the fruiting bodies of which manifest themselves either on the trunks of the trees in the form of punk or toad stools, or on the roots in sheets formed underground, or as toad stools growing out of the ground from the root system. The sapwood of the living tree is always sound.

There are two defects in the yellow pine tree which are met with now and then in the finished lumber. The principal one is known by various terms, such as heart rot, speckled rot, dote, etc., The other is butt rot. The heart rot always starts in the top of the tree in the heartwood, and is recognized by the red discoloration of the wood. In its early stages the wood is somewhat discolored, but is otherwise sound. In the later stages small holes appear, which in the last stages are fringed with white wood fibers which have given the disease in its advanced stage the name of speckled rot.

The butt rots are several in number, but in all cases the defects can be recognized by the fact that the wood has turned into a dark, charcoal-like mass, which can easily be turned into powder

Tree Rot
That Shows
in Finished
Lumber

when crushed between the fingers. This disease rarely extends very far up into the trunk. In boards or timbers cut from the butt end of the tree it frequently appears for from several inches up to several feet. Emphasis should be placed upon the fact that when the pine tree is cut, the organisms which cause the heart rot and the butt rot defects die at once. In other words, in sawed lumber the heart rot and the butt rot do not continue to develop after the trunk of the tree is once cut up. These fungi differ very materially in that respect from those which will be next considered.

**Rot in
Living Tree
Ends with
Cutting.**

After the logs have been cut and lumber manufactured therefrom, the wood is liable to be attacked by a very much larger number of fungi which cause different types of decay. The sapwood is extremely susceptible to the attack of these fungi, and in most cases, where the conditions are at all favorable, will not last more than a year or two. The heartwood, on the other hand, in all species of Southern yellow pine is comparatively resistant and has been known to resist decay for twenty years or more under favorable conditions.

**Fungi That
Attack
Lumber**

There is much discussion at the present time whether the per cent of resin in a piece of yellow pine indicates its power to resist decay. The weight of evidence so far is that it does not, although very resinous pieces have been known to last many years.

**Resin Does
Not Increase
Decay Re-
sistance**

All fungi which grow on lumber after it is cut from the tree require certain conditions to develop. These are a certain amount of heat, a certain amount of water, a certain amount of food supply, and a certain amount of oxygen. The exact proportions of these physical requirements vary with the different species. This may to some extent explain why in some cases one form grows on yellow pine lumber and in other cases why this same form will not flourish.

One of the most important of these fungi is the one which causes the so-called blue stain or sap stain of yellow pine lumber. The blue stain fungus grows naturally in the forest on dead twigs and trunks and produces countless numbers of spores which are blown about throughout the entire country near a pine forest. When freshly cut boards are taken to the yard millions of these spores fall on such boards and during favorable months, particularly from March until October, they sprout with exceeding rapidity and penetrate the sapwood, attacking the starch, sugar and oils found in the sapwood, and oftentimes within twenty-four

**The Origin
of Blue
Stain.**

Blue Stain
Does Not
Affect
Strength
of Wood.

hours produce new fruiting bodies which discharge more spores. The so-called blue stain (which is in reality gray) is due to the combination of color of the fungus threads and the color of the wood fiber. The blue stain fungus grows only in the sapwood, and is therefore frequently a good means of identifying which is sapwood and which is heartwood. I know of no case where the blue stain fungus has ever been found growing in heartwood. The fungus does not attack the wood fiber, and blue stained sapwood is therefore just as strong as unstained sapwood. Numerous tests made under my own direction by the United States Government and similar tests made in the German government testing laboratories have demonstrated this beyond doubt. The only defect which the blue stain fungus gives is in the matter of appearance. In view of the fact, however, that its presence is frequently highly undesirable, various schemes have developed for preventing the growth of the blue stain fungus. The principal methods now used consist in dipping freshly sawed lumber in various salt solutions. The principal salts used are sodium carbonite (soda ash), sodium bicarbonate (baking soda), sodium silicate (water glass), and sodium fluoride. These salts are used in strengths varying from 2 per cent to 5 per cent. The first two are principally used, and where the work is efficiently done, they practically eliminate blue stain.

Turpentine
Does Not
Affect
Strength
of Wood.

Speaking of the relation of the blue stain to strength, it may not be out of place here to refer to the influence of turpentine on the strength of yellow pine timber. Turpentine removes the natural resin from the tree. Resin is an excreted product of the pine tree and is produced in special canals. When the pine tree is tapped, the resin contained in the sapwood exudes from the wound. No resin is ever extracted from the heartwood during turpentine operations. Exhaustive tests made under the auspices of the United States Forest Service have shown conclusively that there is no loss of strength due to turpentine operations.

Decay
Spreads
from Sap-
wood to
Heartwood

Coming now to the fungi which grow on sapwood, their number is legion and they produce every conceivable kind of rot or decay, known popularly as sap rot, dry rot, wet rot, brown rot, etc. These terms have little practical significance. As already stated, the sapwood of all pines (and for that matter, of all timbers) is very susceptible to the attack of fungi, and when so attacked will rarely last more than a year or two. After the sap-rotting fungus has obtained a foothold in the sapwood, in the

majority of instances, it will very frequently attack the heartwood. There are some exceptions to this rule, but in the majority of instances the heartwood is not immune when the conditions are favorable.

The prevention of decay in pine and other classes of lumber has been studied since ancient times. The easiest way to prevent decay is to so use the wood that the necessary conditions for the development and growth of decay-producing fungi are interfered with. A piece of wood which is kept perfectly dry will never decay; that is, a piece of sap pine, if kept perfectly dry, will last twenty years or more. Wood, therefore, which is kept in well ventilated circumstances or under cover, will decay very, very slowly. The same is true for wood which is kept continuously under water. Good examples of this latter are found in the foundation timbers of the Swiss lake dwellings, submerged in the waters of Lake Geneva, which are just as sound today as when built by the pre-historic men; also by the foundation piles of the famous Campanile in Venice, which were used practically in their entirety when the Campanile was recently reconstructed. In the ordinary use of lumber much can be done which is now disregarded, simply because people do not pay sufficient attention to simple methods of keeping the lumber away from contact with the soil or in well ventilated conditions. As a good example of this the laying of porch flooring which, when laid tight, is very liable to decay, but which will last a long time if even the smallest cracks are left between the individual boards.

The most efficient manner for preventing decay is by some process of chemical preservation. The preservation of wood has grown to be a great industry. It has, to be sure, developed largely in connection with timber and lumber used by railroads, steamship companies, and other larger users of wood. In Europe, however, it has for many years been a matter of household application with even the humblest citizen. In 1915 the total amount of lumber, piling, ties, etc., of all woods treated in the United States was equal to about 140 million cubic feet, or approximately 1.7 billion feet board measure. The total number of railroad ties treated equaled 37,085,585, of which 8,541,203, or 23.03 per cent, were yellow pine; 3,817,929 lineal feet of piling were treated at Gulf Coast plants, and 3,134,993 lineal feet were treated in Atlantic Coast plants, probably most of which was Southern yellow pine. The total amount of paving blocks treated in 1915 equaled 2,936,-

**Wood Con-
tinuously
Wet or Con-
tinuously Dry
Does Not
Decay**

**Prevention
of Decay
by Chemical
Treatment**

370 square yards, or $7\frac{1}{2}$ million cubic feet, of which 2,679,906, or 91.3 per cent were Southern yellow pine. The amount of construction timbers on the Atlantic and Gulf coasts treated in 1915 equaled 106,097,328 board feet, or about 75 per cent of all construction timber treated in the United States. While these figures show a very large increase over the amount used ten years ago, you will note that they deal almost entirely with ties, construction timber, piling and paving blocks. The amount of lumber actually preserved is still very insignificant.

The chemicals used in the artificial treatment of lumber which have survived the test of time are very few in number. At the head of the list is coal-tar creosote, sometimes known as dead oil of coal tar, a substance derived from the distillation of coal tar, either from retort gas works or by-product coke ovens. Creosoted lumber will cost anywhere from \$10 to \$25 per thousand feet board measure, added to the cost of the lumber, depending upon the amount of oil used, initial cost of oil, freight, etc. The next in importance is zinc chloride, a water-soluble salt, the price of which is very high at the present time, due to war conditions. The treatment costs from 5 to 7 cents per cubic foot. Mercuric chloride is used in two plants at the present time, both located in the New England states. The cost is about the same as zinc chloride.

These preservatives are applied and forced into wood by different methods. Ordinary painting with a preservative has comparatively little value. Effective preservation can be obtained only in case the preservative is forced into the wood so that all of the sapwood is penetrated. In order to do this the wood must usually be in a thoroughly air-dried condition. Prospective users of lumber are cautioned to guard against the improper use of the host of patented or trade marked so-called wood preservatives. These, in the first place, cost very much more than any of the three compounds above mentioned. In the second place, it is usually advocated that they be applied with a brush, and, entirely aside from any of the other claims made for such compounds, these two points are of sufficient importance to warrant exceedingly careful study on the part of the prospective user before paying the more or less excessive prices, particularly when good creosote can be bought for not to exceed 25 cents per gallon.

The simplest method for treating lumber, applicable particularly to the small user, is the so-called open tank process. This

**Chemicals
That Effect-
ually Preserve
Wood.**

**Painting
with Pre-
servative
Has Little
Value.**

briefly consists in placing the lumber to be treated in a suitable tank or vat, the size depending upon the quantity to be treated. The preservative should then be run into the tank or vat until the lumber is entirely covered. Heat is then applied either by means of steam coils or by a fire built under the tank. The preservative is heated for anywhere from two to five hours, or longer if the timber is very green, and the heat is then withdrawn. The lumber is left in the cooling solution for from two to ten hours, depending upon the size of the lumber treated and its condition prior to treatment. The heating operation produces a vacuum within the wood, and as the preservative cools, it is forced into the wood by atmospheric pressure. This process is admirably adapted to the treatments of fence posts and bunches of shingles, and short lengths of any kind of lumber. It is, however, possible to use tanks long enough to take any length of structural timbers or boards, and as the apparatus requires a comparatively small initial investment, it will be practical for any retailer or any consumer to build one of these plants himself and operate it with every guarantee of success. Complete descriptions of the various types of tanks can be obtained from the United States Forest Service and government state institutions and universities.

The Open-Tank Treatment of Lumber

Most of the timber and lumber preserved is treated by one of the so-called pressure processes. For these processes large cylindrical retorts are used, about six to seven feet in diameter and 100 to 160 feet in length, supplied with the necessary pipe lines, pressure and vacuum pumps, storage tanks for the preservative, etc. The lumber or paving blocks are piled on small cars which are run into these retorts, and after varying applications of steam, air pressure, vacuum, etc., the preservative is forced into the lumber at pressure approximating 175 pounds. Careful records are kept of the amounts of the various chemicals injected, because upon this the final cost usually depends.

The Pressure-Vacuum Method of Treating Lumber

The pressure processes may roughly be classed into the so-called full-cell treatment, in which large amounts of preservative are injected, and the so-called empty-cell treatments, in which large amounts are initially injected and then withdrawn with the exception of a small amount, the idea being to obtain the requisite penetration and still leave only a small amount of preservative in the timber, thereby reducing the cost. It should be remembered that all preservative processes require considerable technical chemical and physical knowledge, and in all cases careful super-

Experts Should Supervise Treatment

vision should be given to the condition of the timber before treatment and all of the steps involved in the process of treatment.

Where
Treated
Lumber
May Be
Obtained.

One of the most important considerations from the user's standpoint is to know where to get treated lumber, where to use it, and how to use it. Answering the first question, treated lumber can now be purchased in practically any part of the United States from various timber preserving companies, a list of which can easily be obtained. Dealers have not so far used any large amounts of preserved wood, chiefly because of the lack of demand. As soon as the public finds out that a treated piece of yellow pine is worth many times more than what they pay for it, such demand will come just as certainly as it did abroad.

Where
Treated
Material
Should Be
Used.

Answering the second question, where to use it, preserved lumber can and should be used wherever lasting power is of importance aside from lumber used for interior or decorative purposes. This will include practically all forms of yellow pine construction used out of doors, whether it be for ties, piling, paving blocks, porches, fence posts or poles, lumber used in the construction of barns, cattle troughs, garages, etc. It will be safe for those who are interested in the proper marketing of Southern yellow pine to remember that preservative wood, which will of course apply chiefly to wood with a high percentage of sapwood, can be urged upon the public with every confidence that claims made therefor will be substantiated. Properly creosoted sap yellow pine will last fifty to sixty years or more. Some of the specimens before you will bear this out. I have recently examined a fence near Norfolk, Va., constructed of sap pine. The posts were treated in 1883 and the palings in 1894; in other words, the posts have now been in service thirty-three years and the palings twenty-two years, and they are all as sound and perfect as the day they were constructed. Properly creosoted lumber is just as strong as the untreated lumber. I have a strong belief that the American people will cheerfully utilize any material of which they appreciate its fitness and usefulness. Think what it means to build a fence of yellow pine at the present time and have the two by fours and posts rot within four or five years, and then consider again the same kind of fence which will last fifty years. We have in properly preserved lumber a field for future application for every purpose which can certainly be made one of the strongest talking points in favor of the use of wood.

As to how to use preserved wood, this will depend very materially on the purpose for which it is intended. Where wood is to be painted or where odors are objectionable, either zinc chloride or mercuric chloride treated wood should be used, because after such treated lumber is dry it can be worked or painted in any way desired. Creosoted wood can be used immediately after treatment, although it is usually better to allow it to dry for a few weeks. Wherever possible, wood should be framed and cut to the form in which it is to be used, because the longer service will be obtained when the wood is not damaged or wounded after it has once been treated. Creosoted wood is not poisonous, as has frequently been stated, either to animals or men. It repels all forms of fungi and is resistant to all types of insect attack. It is rat-proof, and when used on the farm, horses and cattle not only will let it alone, but it also adds in a most material manner to the sanitary condition in places where animals are kept. For special uses special directions will be found necessary. This is, for instance, typified by the use of Southern yellow pine in connection with paving blocks. It is not only of the utmost importance that a good class of yellow pine be used for the manufacture of paving blocks, but it is even more important to see that the blocks are properly treated by the correct method, and that after treatment they are laid upon a proper concrete foundation, with the necessary expansion joints and fillers, as prescribed by the best standard city specifications.

**How to
Use Pre-
served Wood**

Zinc chloride treated wood will not have the length of life that creosoted wood will, because zinc chloride is soluble in water and unless protected will in time leach out. In view of the fact that it is a cheaper process, however, numerous uses will doubtless be found. So, for instance, if properly painted it will have none of the possible objectionable features as to color or odor which the creosoted lumber will have, and will last a long time.

**Treating
Wood That
Is to Be
Painted**

The foregoing gives a very rapid survey of an industry which will be found to grow in the coming years with the increasing knowledge and appreciation of the public. It has necessarily been impossible in this brief paper to more than touch the high spots and to point out some of the fundamental points connected with the manufacture and use of treated yellow pine. It should be remembered that the Southern Pine Association stands ready at all times to give specific advice with reference to any one of the points connected with the possible use of preserved yellow pine.

**The Study
of Wood
Preservation
a Duty.**

It should be stated that everyone interested in the modern merchandising of yellow pine lumber will fail of his full responsibility unless he recognizes the necessity for a careful study of the preserving problem and is fully alive to the future possibilities which lie in extending the use of properly preserved yellow pine.

Cost From Mill to Car

By L. J. Boykin
Gulf Lumber Company
Houston, Texas

The accomplishments of this Association reflect credit upon its officers, who are tireless workers and who have set an example that you as individuals may well follow. It is your duty to yourselves and to the people by whom you are employed to work as zealously as they for the upbuilding of this industry.

In my opinion, all salesmen should be conversant with the cost of the article they sell, and your chairman has selected me to enlighten you as to the cost from sawmill to car. The costs at the various mills vary to such an extent, account of their facilities, that you will have to depend upon these facilities of the mill by whom you are employed to give you their cost in each department. The figures that I furnish you are compiled from cost statements that I have been able to obtain from some of the largest manufacturers in East Texas and West Louisiana, and I find that there is a wide variation in the cost of each of their departments, which is occasioned by the manner in which their lumber is handled. I will endeavor to give you the cost in such a manner as will be of benefit to you as salesmen on practically every order you accept.

Rough Green Lumber from Sawmill to Car, \$0.2698.

This item includes placing lumber on dollies and trucking to loading ramps, salary of shipping clerk, and repairs to loading ramps, and loading on car.

Sawmill Through Sizer at Back End of Mill to Car, \$0.592.

This includes the salary of sizer man, the handling of the lumber to sizer, putting on dollies and loading on car, as well as repairs to loading ramps.

Cost of Sawmill Through Kiln.

Superintendence. \$0.129

Items of
Trucking,
Loading, etc.

Stacker labor .....	.166
Transfer. ....	.084
Repairs. ....	.12
Incidentals. ....	.095
Dry kiln labor.....	.096
Dry kiln steam.....	.129
Unloading. ....	.123

Total.\$0.942

In accepting orders for kiln dried lumber it is well for you to avoid any thickness over two inches in long leaf. This is brought about from the fact that this lumber checks to such an extent in drying that you degrade at least 25 to 30 per cent. This is not true of short leaf, for the reason that it does not contain as much heart lumber as long leaf, and you can successfully dry two inches and over in short leaf.

**Difficulties
in Kiln-Drying
Longleaf**

The same statement may be made with regard to kiln drying heart lumber of any width or thickness containing 90 per cent or all heart of its cubical contents. There is no doubt in the kiln drying of No. 1, No. 2 and No. 3 grades that you lower the grade of this stock at least 20 per cent, especially is this so in long leaf. This is occasioned by checks in heart lumber and loosening of knots that are taken out by fast machine work at the planing mill. Some mills have separate rooms set aside in their kilns for the drying of No. 1 and No. 2, and are able to obtain better results than others, who stack their lumber on kiln trucks and place in kiln regardless of its grade.

Cost of Mill Through Soda Dipping Vat, 8¾c.

The cost of treating lumber with soda dipping process has increased at least 100 per cent since the European war. This is brought about by the increased price of soda. Included in this expense is the cost of steam used in heating.

Handling From Kiln to Rough Shed.

Trucking to dry shed.....	\$0.15
Piling in dry shed.....	.134
Truck repairs .....	.010
Tram and shed repairs.....	.028
Incidentals. ....	.053

Total.\$0.375

**Cost of
Soda Dip
Increased**

As explained previously, the arrangements of the various mills make their cost vary. Some mills handle their lumber by what is known as the electric monorail system, and lumber so handled, the cost will be less than above stated, but there are very few mills equipped with this system.

Sawmill to Yard.

Sorting Table\$.34117

This item includes the grading of lumber in the rough, pulling off of sorting table, and putting on dollies.

Yard labor\$.3427

**Sawmill
to Yard**

This item includes handling of lumber on dollies to rough shed and distributing according to grade and lengths to each stack.

Yard stacking\$.1583

This item includes picking the lumber off of the ground and stacking it on pile.

Making total cost from sawmill to yard ..\$.8427

It requires 60 to 90 days to air dry thoroughly, depending entirely upon weather conditions. In the summer time material can be sufficiently dried in from 45 to 60 days, but in the winter it usually takes 90 days.

Handling of Rough Lumber from Yard to Car, 40c Per M.

This item includes taking lumber down from stack, loading on dollies, hauling to loading dock, unloading and loading in car.

The same cost of 40c may be made from rough shed to car.

From Rough Shed and Yard to Planer.

Superintendence. \$0.021

Labor.228

Stable.077

Truck repairs019

Tram road repairs.002

Incidentals.004

Total. \$0.351

Cost of Putting Lumber Through Machines.

Superintendence. \$0.082

Helper.052

Labor.541

Light and water.025

Oil.014

Insurance.017

Belting. . . . .	.061
Planing mill knives and heads. . . . .	.037
Twine. . . . .	.023
Machine shop. . . . .	.038
Incidentals. . . . .	.117

Total. \$1.007

The Cost from Dollies to Car, which comes under the shipping department, means that this department takes this lumber as it stands behind the machines on lumber buggies and trucks it around to the cars, the sheds, or the outer yards.

Superintendence.	\$0.072
Trucking and loading. . . . .	.302
Tram and shed repairs. . . . .	.021
Truck repairs . . . . .	.005
Incidentals. . . . .	.010
Demurrage. . . . .	.003

Cost from
Dollies
to Car

Total. \$0.413

Taking lumber from pile in dress shed or car 25c to 40c per M. Doubtless a great many of you salesmen have not considered the time consumed and the cost of twine in the bundling of lumber. This is an item that costs the manufacturer \$0.0203 per M on all lumber shipped through planing mill, whether bundled and tied or not. The cost of sisal, like soda, has doubled in value since the war began, and the cost of twine, which is made from sisal, has tripled in value. You may use the following expense as a basis of bundling and tying:

Bed slats	\$0.254
1x4—9 ft. car siding. . . . .	.087
Flooring, ceiling, siding, car lining, 8 to 20 ft. . . . .	.066
1x4—10 or 20 ft. car siding. . . . .	.063
1x4 and 6 in.—5 ft. car lining or rfg. . . . .	.171

These costs also vary depending upon how fast feed machines are running and whether or not the grader has time to do the work himself.

The Cost of Resawing, 36½c per M.

The resawing of any grade of lumber, with the exception of B and Better, unless the stock is well manufactured, degrades the

Re-Sawing
and Ripping

material, and this is especially so for No. 2 and No. 3 resawed, for the undergrade accumulation and waste will amount to at least 25 per cent. All lumber is graded from its best side, and if you take 2-inch and resaw to 1-inch, in all probability you will reduce the grade of one piece of this lumber, unless it is carefully selected before resawing.

Ripping costs from 50c to 75c per M, and frequently the grade is raised by ripping wide stock to narrow—and furthermore it assists the manufacturer in getting out orders for narrow stock by ripping the wide lengths. This is especially true when there is a good demand for siding and lining and no sale for wide finish.

Trimming costs \$0.459.

It is impossible to trim lumber to exact lengths when it is done by the usual trim saw behind the machine. To trim lumber exact, $\frac{1}{4}$ inch is as close as it is practical. Orders calling for special trimming to odd lengths you should base your sale on even lengths next above, from which this trimming is done, so as to avoid loss to the manufacturer—unless you secure a price that will justify this loss and the cost of trimming. This expense depends upon the rapidity of the material coming from the machines and the location of the cut-off saw from the machine.

Special Work Stock costs \$0.513 per M.

I wish to lay particular stress upon the reworking of special stock. This is something that you salesmen should pay particular attention to, and especially the reworking of stock that is accumulated from the working of special stock. The mills usually have a large accumulation of this material on hand, and by paying close attention to your stock sheets I feel satisfied that you may move it.

Stock worked thicker or wider than standard means that it must be cut special in the sawmill, and that any items failing to grade for the special order must be placed in regular stock at a considerable loss. A high percentage of lumber is lowered by special working, and especially is this so of the low grades, No. 2 and No. 3. All stock should be carefully selected for the grade sold in the rough so as to avoid as much undergrade accumulation as possible, but, even though this is done, the undergrade accumulation will amount to at least 10 per cent and if No. 2 and No. 3 grades are worked special, the undergrade accumulations are

much greater. Usually there is no sale for these undergrade accumulations, and it necessitates extra working, which means a loss in material and an additional expense to the manufacturer. As an illustration, take 2x6—18 end car lining or siding worked to 1½-inch. The best that you can get out of the off grade is 2x4, which means a third loss of footage.

The Handling of Off Grades Is Another Feature.

**The Handling
of Off Grades**

This stock as it usually comes from the machine is either taken to the off-grade yard or stacked in the dress shed at an expense of 25c to 40c per M. When an order is received for this stock worked to some other size, not only does it cost 25c to 40c to re-handle from off yard or shed, to machine, but the re-working costs \$1.00 per M and an additional undergrade accumulation of 10 per cent or more, which usually is a total loss.

On all special work stock make your customer accept the undergrade accumulation at proportionate price to the grade sold, or include a sufficient amount per M feet to your price to cover up this loss on this special worked stock. You should not accept orders for special work stock that requires the use of special bits. Sometimes these bits not being on hand, the cost of them alone is almost equal to the value of the stock after it is worked, provided it is for a small order. The present high price of Tungsten steel, from which these planing mill knives and heads are made, adds to the cost of manufacture, and the salesmen before making sale should bear this in mind. Frequently bits on hand may be re-ground to the special shape required, but when re-ground probably 25 per cent of their wearing life is consumed in the changing of the shape by the grinder.

Full Thickness and Full Width Specials on Timbers.

Such as 6¼ and 8¼ surfaced four sides to 6x8. Salesmen should charge the customer, when surfaced four sides material is called for, ½-inch size. In other words, charge for 6½x8½, as it takes this size material to dress down to 6x8 plump. In other words, you take off ¼-inch to the cut, and whenever orders are accepted allowing only ¼-inch for dressing, the manufacturers lose money.

Utilization of Southern Pine Mill and Woods Waste

By Howard F. Weiss

Director, Government Forest Products
Laboratory
Madison, Wis.

To make something from nothing is impossible. There are some who feel that the practical utilization of Southern pine waste is on a par with this statement. While the problem of successfully using such waste is a complex one, nevertheless, it is felt that much can be done towards its solution. Encouragement comes when we realize that the average length of a board in final place is about four feet. Furthermore, the problem is of such enormous magnitude that a strenuous effort to successfully solve it must be made. From some measurements of the amount of waste in Southern pine operations, it appears that only 31 per cent of the standing forest is marketed as lumber. One thousand feet board measure of lumber represents eighty-three cubic feet of wood, and to produce this eighty-three cubic feet it is necessary to destroy 268 cubic feet. Now, then, this 31 per cent of the standing timber has to pay all costs for promotion, protection, taxes, logging, milling, depreciation, the salaries of you salesmen and, in addition, a profit to the owner. I believe you will admit that this is a tremendous burden to ask lumber to carry by itself, and it is this factor which is largely responsible for many of the difficulties the lumber industry has been and is having. Then again, there is little likelihood that any of these cost items will come down. In fact, the tendency is for them to advance. Furthermore, the price of lumber cannot rise appreciably above past levels because of competition with other materials. The problem, therefore, which the manufacturers of Southern pine lumber have to face is a most difficult one, and any method which will distribute the burden of over-head and operating costs over more than 31 per cent of the standing forest is worthy of most serious consideration.

Only 31
Per Cent
of a Tree
Is Saved

It is gratifying that much progress in the utilization of waste has been made and several of the lumbermen in this Association are now successfully working their waste into commercial products

at a profit. But even under the most efficient management, there is much which yet remains to be done. It is the purpose of this paper to briefly analyze the waste situation and to suggest certain remedial measures. Many important details must of necessity be eliminated.

**Progress
in the
Utilization
of Waste**

Amount of Waste Now Produced.

If we assume that the total annual lumber cut of the United States is 40 billion feet, our sawmills produce about 62 million cords of waste containing 100 cubic feet of solid wood each. Of this amount, approximately 24 million cords are produced in the mill and 38 million cords in the forest. In Southern pine we may assume that the annual cut is approximately 16 billion feet and that the total waste now occurring in your industry approximately 25 million cords.

**Annual
Waste of
Yellow Pine,
25,000,000
Cords**

Present Methods of Utilizing Southern Pine Waste.

Present methods of successfully utilizing the waste of Southern pine may be roughly divided into two large divisions. First, mechanical utilization, or the manufacture of wooden articles; second, chemical utilization, or the production from wood of products other than wood. It is with the former that you gentlemen can be of greatest assistance to your industry.

**Methods of
Utilization**

Southern pine woods waste is now being utilized for the manufacture of cross-ties, fence posts, mine timbers, small poles and poles and piling, pulpwood and cordwood. According to our records, Southern pine mill and factory waste is now being used in the manufacture of 287 separate classes of articles, as shown in table 1. It is my suggestion that you, gentlemen, study very carefully the various articles listed, as this may furnish you with suggestions for more satisfactorily solving the disposal of the waste of your company. I regret that I do not have information at present on the sizes of the various pieces of wood used in the articles mentioned or specifications giving the quality of wood required.

Table 1—Reported Uses of Southern Pine Mill and Factory Waste.

Apple crates,	Ballot boxes,
Art fence material,	Balls,
Auto repairs,	Banana drum heads,
Art moulding,	Barbed wire spools,
Bacon boxes,	Barn sash,
Barrel heads,	Base blocks,

Basket covers,	Ceiling,
Basket bottoms,	Chair stock,
Battery boxes,	Cheap mantles,
Bed slats,	Chicken feeders,
Bed bolsters,	Churn dashers,
Beehive frames,	Cider mill crates,
Berry trays,	Cleats,
Berry crates,	Clothes racks
Balusters,	Clothes poles,
Blinds,	Clothes dryers,
Blocks,	Corner blocks,
Blocking,	Corner moulding,
Book racks,	Column members,
Boxes,	Crates,
Box heading,	Crate ends,
Box partitions,	Crating stock,
Box ends,	Cripple posts,
Box cleats,	Culverts,
Box shooks,	Curtain rollers,
Braces,	Cupboards,
Brackets,	Deck filling,
Brake shoes,	Destination signs,
Brake and head blocks,	Display fixtures,
Bridging,	Dowels,
Brush backs,	Dowel pins,
Building sills,	Door cases,
Bushel crates,	Door cleats,
Bundled kindling wood,	Drawers,
Cabinet trimmings,	Drawer cases,
Cabinet work,	Drawer bottoms,
Cabbage crates,	Draft timbers,
Camp stool legs,	Drum bottoms,
Car repairs,	Dust boards,
Car blocking,	Embossing,
Carvings,	Engineer stakes,

Fancy cut windows,	Hand corn seed graders,
Fence pickets,	Harness,
Fencing,	Hay rack frames,
Finishing,	Hose reels,
Firewood,	Horse bedding,
Fireless cookers,	Inlaid work,
Fireproof blocks,	Incubators,
Firebrick crates,	Ironing boards,
Flag poles,	Lace spools,
Flower stands,	Ladder rungs,
Flower boxes,	Lard crates,
Flooring,	Lath,
Floor blocks,	Lattice work,
Floor fillers,	Lawn benches,
Floor sweeping compounds,	Lawn swings,
Foundry moulds,	Lodge emblems,
Freight car repairs,	Lumber piling sticks,
Friction blocks,	Manual training,
Fruit crates,	Manure wagon parts,
Furniture novelties,	Match blocks,
Furniture veneer cores,	Medicine cabinets,
Furniture dimension,	Medicine boxes,
Fuel,	Metal ceiling strips,
Garden sticks,	Mine blocking,
Grain doors,	Mine caps,
Grain screens,	Mine doors,
Grain thresher parts,	Moulding,
Grain markers,	Nail boxes,
Grain strips,	Nail polisher blocks,
Grade stakes,	Neck yokes,
Grave markers,	Newel posts,
Grating slats,	Novelties,
Grill work,	Nutlock boards,
Gutter brackets,	Onion crates,
Glue blocks,	Ornaments,
Gymnasium apparatus,	Outriggers,
Hames,	Palings,
Head blocks,	Packing house meat boxes,
Hammer handles,	Parts of kitchen cabinets,
Handles,	Parting strips,
	Paving blocks,

Peach basket bottoms,	Short spring packing,
Peach basket tops,	Shelving,
Pegs,	Shingles,
Pipe linings,	Shovel blocks,
Pit caps,	Short car flooring,
Pitman rods,	Showcase fixtures,
Pickets,	Singletrees,
Plant boxes,	Silo parts,
Platform filling,	Sidewalk sills,
Plinth blocks,	Slats,
Plow rounds,	Slack staves,
Plugs,	Slack heading,
Porches,	Small school desks,
Powder car strips,	Small display fixtures,
Porch swings,	Small brackets,
Porch brackets,	Small show cases,
Porch balusters,	Small turnings,
Porch column caps,	Small cabinet work,
Porch seats,	Small machine parts,
Porch spindles,	Small dimension,
Potato crates,	Small water tanks,
Poultry coops,	Small pigeon holes,
Powder chemicals,	Small furniture novelties,
Propelling levers,	Small window sash,
Pumps,	Soda water cases,
Pulpwood,	Spokes,
Quarter round moulding,	Spindles,
Rails (vehicle, etc.)	Spring bars,
Railroad shims,	Spools,
Railroad ties,	Spring boxes,
Refrigerator car parts,	Stair wedges and keys,
Roofing slats,	Step ladders,
Rosettes,	Squaring frames,
Running boards,	Stools,
Running board saddle blocks,	Swings,
Saw bucks,	Survey stakes,
Salt meat shipping boxes,	Surveyors' hubs,
Screen mouldings,	Tables,
Sash,	Tail gates,
Screen door stock,	Tent stakes,
Screen slides,	Thin timber,

Thin ceiling,	Wagon grating,
Tie plugs,	Wagon pins,
Tiling strips,	Wagon stakes,
Tobacco sticks,	Wagon box cleats,
Tongue blocks,	Walking board cleats,
Tov building blocks,	Washboards,
Toys,	Washing machine pins,
Transfer cases,	Wedges,
Track shims,	Window beads,
Tray stock,	Window stops,
Trimnings,	Window jambs,
Turnings,	Window screens,
Turned balusters,	Wire cleats,
Vehicle bodies,	Wire reels,
Veneer door cores,	Wheelbarrow parts,
Veneer cores,	Wood washers,
Vertical file cases,	Wrecking blocks.
V-crimp roofing sticks,	

The chemical utilization of Southern pine waste has also made gratifying progress. The most important processes now in successful operation are: the destructive distillation process, which converts the waste into turpentine, wood oils and charcoal; the extraction process, which converts the waste into turpentine and rosin; the sulphate process, whereby Southern pine waste is converted into kraft paper; and the ethyl alcohol process, which produces ethyl (grain) alcohol. This is not the place to enter into a discussion of the technique of these processes, but from a hasty inventory, it appears that 250,000 cords of Southern pine waste are now being used annually by the processes just mentioned, or, roughly, about 1 per cent of the total waste of the Southern pines. It is of interest to note that the chance for extending these processes is very good, particularly in so far as the manufacture of paper and fiber products, grain alcohol and rosin are concerned.

**Chemical
Utilization
of Waste**

I want to show you some articles which can be made from wood waste, in order that your conception of the value of wood might be broadened. It is my firm conviction that it is in the production of articles like these that the future of wood utilization looks brightest, and that such increased production will revolutionize the profitableness of timber operations.

(Mr. Weiss exhibited here kraft paper, paper twine and rope, onion sacks, coffee bags, barrel tops, fiber rugs, silk cloth, silk stockings, sausage cases, and a number of other articles made from wood. (See report of his impromptu remarks in proceedings of the convention, given elsewhere in this book.)

Suggestions to Improve the Waste Problem.

After this brief consideration of the importance of the waste problem, the amount of waste now occurring, and the extent to which it is being used, I wish to discuss with you certain suggestions, which if made effective would, in my judgment, greatly increase the returns now derived from the utilization of Southern Pine waste. The problem is so big, reaching not only into the field of salesmanship, but into manufacturing efficiency and science, that you gentlemen cannot be held responsible for its solution, but you can, undoubtedly, do much to assist in its solution. In addition to your efforts it is absolutely necessary for both the manufacturers of pine lumber and for technical workers to devote much brains and money to it. Do not feel that I advocate converting you lumber salesmen into drummers for babies' silk stockings or ladies' dresses. You are too old for that. These processes when finally established will require a specially trained corps of salesmen; for example, the products of the paper mills will be sold by paper salesmen, but all of you will be working in a common cause—the increased utilization of wood. I believe that your field lies in pushing a better utilization of wood along the mechanical lines mentioned above.

The specific suggestions to improve the utilization of Southern pine waste which I wish to consider with you are: First, an intensive study should be made of the kinds, dimensions and quality of wood required by the various wood using industries. As a rule, salesmen of lumber are not sufficiently informed in regard to the manner in which lumber is finally worked by the wood using industries, and I believe that many salesmen would strengthen themselves if they studied the operation of various wood using factories and saw with their own eyes the manner in which boards are cut and used. It is along this line that I believe you can be of greatest assistance in the solution of the Southern Pine mill waste problem. You can by such study collect a fund of information in regard to the dimensions and quality of wood required by the wood using industries which, if reported to your Association or to your

**How the
Salesman
Can Help
in Waste
Utilization.**

**Learn Fac-
tory Uses
of Wood.**

concern, would undoubtedly suggest ways and means of disposing of much waste now produced.

It might interest you to know that the United States Forest Service has established in Washington what is known as a "Wood Waste Exchange." It has listed the names of various manufacturers who have waste to sell and also the names of various consumers who wish to purchase waste. These lists give the names of the concerns, the kinds of woods they require, sizes, and quantity annually consumed or produced. I believe the lumber associations of the United States would profit by building up similar lists for their own special requirements, making it available to all of the manufacturers who belong to the association. At the risk of making myself unpopular with the lumber secretaries who are already comfortably occupied, I think that the problem of successfully utilizing wood waste is of sufficient importance to justify their association in employing a man who could specialize on this problem and who would report to the association facts and figures concerning markets for waste. It is my judgment that this procedure would prove more effective than placing the responsibility upon the salesmen, since the question of wood waste utilization is a special one and requires concentrated and continuous application.

A Government "Wood Waste Exchange."

The second suggestion to bring about improvement in the utilization of waste is that greater attention should be given to the manufacture of lumber. In other words, this phase of the problem belongs to the manufacturing rather than to the sales end of the lumber business. I allude specifically to the cutting of log lengths, to the sawing of lumber, to careless edging, trimming and planing, improper and careless kiln-drying and yard seasoning, etc. Let me illustrate: In a study which we made at two sawmills in Oregon which manufactured Douglas fir, we found, that one mill planing 4/4 C-select, the planer was fed at the rate of 150 feet per minute, the blades making 2,800 revolutions per minute. At the other mill, manufacturing the same kind of lumber, the speed of feed was 73 feet per minute, the planer making 3,400 revolutions. The degrading at the first mill attributed to the machine was 70 cents per thousand, and in the second 10 cents. It is estimated that lumber manufacturers lose annually about \$33,000,000 due to improper seasoning and kiln-drying of their lumber. We made a study of the extent of depreciation in air-seasoning lumber at a Western yellow pine mill and found that the 4-4-B-

Problems for the Manufacturer

select Western Yellow Pine depreciated 15.2 per cent in air-drying, representing a loss of \$6.19 per thousand. Some tests made at another mill in the same locality where the lumber was carefully graded and where greater care was taken by the management in properly piling the lumber, the loss for the same grade of boards was only 2.6 per cent, or \$1.13 per thousand. Another study was made in a sugar pine mill in California which showed excessive losses in air-drying. I give below a table showing what was found in this study. You will note that the deterioration of the Nos. 1 and 2 clear sugar pine amounted to \$17.90 per thousand.

Table 2—Causes and Amount of Deterioration in the Yard of No. 1 and No. 2 Clear Sugar Pine:

Cause—	Amount Ft. B. M.	Percentage of Pile	Percentage of Deterioration	Loss per M.
No deterioration	1,380	24.5	.0	\$.0
Check	426	7.5	9.9	1.77
Check and stain	178	3.1	4.2	.75
Blue stain	2,917	51.7	68.2	12.21
Stain and pitch	121	2.1	2.9	.52
Stain and hookholes	37	.6	.9	.16
Stain and flume	115	2.0	2.7	.48
Pitch	145	2.5	3.5	.63
Flume damage	208	3.8	4.6	.82
Hookholes	57	1.0	1.3	.23
Cross grain	73	1.2	1.8	.33
Total	5,657	100.0	100.0	\$17.90

Investigation
Would
Astonish
Southern
Pine Manu-
facturers.

Unfortunately we have not conducted studies of this kind in the Southern pine region, so I am not able to give you specific figures from your locality, but I feel that if you would examine critically into the deterioration or loss of your lumber caused by improper manufacturing, kiln-drying and piling, you would be astonished at what is now occurring.

Improved
Wood-
Working
Machines
Needed.

As our third suggestion: I believe the lumber manufacturers should co-operate more closely with the manufacturers of wood working machinery in the development of machines to reduce the cost of handling and manufacturing waste. While in specific instances this co-operation is close, I believe it is not close enough and that if the lumber manufacturers worked more closely with

the manufacturers of wood working machines, greater progress in the successful utilization of waste would result. One of the most difficult problems to be solved in the successful use of waste is the elimination of excessive costs for handling waste. When waste is handled by hand, the cost of making a product from it is frequently so high that little or no profit can be realized. Lumber manufacturers, through their associations, should call their specific problems to the attention of these wood working machinery concerns and encourage them in testing out such machines as they may develop.

I distinctly remember when I was last in British Columbia, I met a young engineer who was attempting to perfect a new type of skyline skidder. He had his machine under test at one of the logging camps on the West coast, and when I met him he was very much discouraged and depressed. Practically every man in the camp from the woods superintendent down, ridiculed his idea, and hurled at him no encouragement but much ridicule and abuse. Such a spirit is fundamentally wrong and is largely responsible for the slowness with which the lumber manufacturers have improved the efficiency of their business as compared with manufacturers in other lines.

My fourth suggestion is that an effective unit cost keeping system should be adopted which will give the manager a sharp knowledge of the cost at all stages in manufacturing lumber. Without such a knowledge, a business cannot be run most successfully. At this point I wish to call to your attention the results of two tests we made to determine the rate at which lumber is sawed from large and small logs and the cost per thousand feet of manufacturing lumber from such logs. I might state that these tests were made at two different sawmills, a stop-watch being kept on the various stages of the operation and where no change in the regular method of sawing was made. The first study was in a Douglas fir mill sawing grade 2 logs 24 feet long. It furnished the following data:

Unit Cost-
Keeping Sys-
tems Lacking

Sound Douglas Fir.

Mostly 2-inch stock but a little 1-inch stock and a few timbers cut uniformly from logs of various sizes.

Diameter of Logs Inches.	Rate	Cost
	Production per Hour.	per M. Net Lumber Tally.
12	4,860	\$5.70

30 8,820 3.09

Another test made at a hardwood mill in the South where the stock was sawed into 1-inch lumber gave the following data:

Sound Red Oak.

Plain sawn 16-foot. Mostly 1-inch stock but a few ties.

Diameter of Logs Inches.	Rate Production per Hour.	Cost per M. Net Lumber Tally.
15	3,215	\$2.37
25	4,581	1.66

Of course the process of sawing logs into lumber is simply one stage out of several which ought to be studied. It is my feeling that if such an accurate analysis of logging and milling costs were made it would result in materially modifying the products into which many logs are now sawed, and would assist in the solution of the wood waste problem.

The fifth suggestion is that lumbermen should take an active interest in and co-operate closely with, all institutions that are scientifically studying the manufacture of merchantable products from wood. I have in mind such institutions as the one I represent. I believe that by a closer co-operation much more could be accomplished in reducing the losses now occurring in the manufacture of lumber through the production of inferior lumber and waste. It is my feeling that not only should the lumbermen make it a point to co-operate very closely with such technical organizations already established, but that they should have institutions of their own which would study their specific problems. I am fully convinced after a number of years of careful study and experience in this matter that such organizations would pay handsome returns on the investment.

My sixth and last suggestion is that the lumbermen should encourage the purchase and use of all articles made from wood waste in so far as they can. I have in mind, for example, such articles as the wooden box and paper twine made from mill waste. Such use on the part of the lumbermen themselves will encourage concerns struggling to manufacture wood waste, and will in the long run reflect to the direct advantage of the lumber manufacturers.

In conclusion, it is evident from this brief discussion that you gentlemen representing the sales end of the business cannot be held responsible for bringing to a successful conclusion the

Lumbermen
Should Aid
in Research
Work

Use Articles
Made from
Wood
Waste

utilization of Southern pine waste, but that there is much which you can do, particularly in the studying of markets for wooden articles along the lines suggested above. I have tried to show that the present as well as the future of Southern pine waste utilization requires the combined brains, energy and direction not only of you salesmen, but of technical workers and manufacturers as well. Whatever direction your energies might take, I believe you should keep clearly in mind that from a purely individualistic and selfish standpoint the object of all your efforts is to put waste to an economical use, thus adding to the income derived from the forest. This will help to keep the price of lumber at a level where it can compete successfully with other materials, and to retain the lumber industry on a profitable basis. But there is also a broader and more patriotic object, namely, putting our great natural resource, American timber, to its fullest and most complete use. I am sure you will agree with me in that both objects are well worthy of most intensive study and application.

Co-operation From *the* Saw Mill

By C. E. Martin
Sabine Lumber Company
Cedar Rapids, Ia.

Perfect co-operation can be gained only through the employment of the highest efficiency applied to the three chief factors governing the marketing of lumber, and these three factors should be analyzed one by one.

The General Sales Office.

Inasmuch as the main action radiates from the sales office, this is the first factor to be discussed. To begin with, the sales manager should select for the road men that have natural sales ability and horse sense; men in whom he can confide and from whom he should hold back nothing in the way of information. If there is a threatened change in the market, either better or worse, let him so advise the road man, who will discover the situation sooner or later through his own resources. Forever talking high

**The Obliga-
tion of
the Sales
Manager**

prices is a poor sales argument. If the man that is continually predicting higher prices next week is so sure that same will be effective, the proper thing for him to do is to hold his lumber and sell it next week instead of placing this argument before his salesmen.

A salesman should be furnished with a stock sheet or corrections on stock sheets at least once a week.

He should be furnished with information as to existing conditions in other territories aside from his own.

He should be advised fully as to the facilities for the plants for whom he sells as well as the facilities of his closest competitors; nowadays one must know the other fellow's business nearly as well as his own.

Road men should be kept closely informed from time to time as to the character of timber in which the mills are cutting, as different classes of timber produce better or poorer grades, although they are all sold on the same basis.

The transit car feature should be placed before the salesman, explaining the general nature of this business and the origin of transit, also the comparative amounts of transits and direct mill shipments. There is no reason why this class of business should affect the general market, as it does at the present time. Salesmen should be furnished with sufficient information to successfully combat the transit feature.

Information of almost any character relating to lumber business is helpful to salesmen and the general sales office should see that he gets it.

The Road Salesman.

A salesman in any line, in order to make a success of his work, must have implicit confidence in his employers and their product. He must first convince himself that he has the best connection obtainable and then proceed to convince others.

He must gather information in regard to his line in all manners conceivable. One of the best means is through friendly association with the competitors. This association should be closer and more general among competitive salesmen. Gum-shoe work is out of date and the idea that all competitors are snakes is obsolete.

Salesman should know his line thoroughly. He need not be a practical sawmill man, if he is possessed of good sense and keen observation. However, he should have a general knowledge of saw and planing mill operations and detailed knowledge of his own mill's facilities.

Information
That Sales-
men Should
Have

All Com-
petitors Are
Not "Snakes."

For the benefit of salesmen that have missed the sawmill course, information should be compiled and placed before them defining good and bad orders from the sawmill standpoint. This might be effected through the illustration of various sample orders. Even practical sawmill men through their anxiety to fill up the order book, sometimes take on bad business and some suggestions to jar their memory are not out of line.

The salesmen should learn that yellow pine (except special stock) is not cut to order, but is an accumulation regulated by the character of the logs. Therefore orders have to be made to fit the stock instead of stock made to fit the orders as is customary in other manufacturing lines.

**Make Orders
Fit the
Stock**

He should not promise quick shipment when he knows it will embarrass the mill to fulfill his promise. These occasions are often prompted by over-anxiety. Either influence the buyer to change his specifications or let some other fellow have the order. It may be just the kind of an order he is seeking. Salesmen should refrain from occasionally trying to put something over on the mill, he'll get it put over on him if he keeps on trying this stunt.

Not all logs are 16 feet long. This is the general opinion of several thousand carpenters and quite a number of salesmen, judging from the appearance of their orders. It will not be considered a crime by your sales manager to try and sell some of the other lengths.

**Orders for
Varied
Lengths
Appreciated
at the Mill**

Quite often mills accumulate surplus stock in certain items and special concessions are made to move it quickly. In such instances, salesmen should by all means avoid including any other item or items on which the mill is short, as such additions kill the order completely.

Try at all times to sell what the mill wants to move, rather than exactly that for which the buyer inquires. Quite often it is an easy matter to make slight changes in an order, thereby improving it immensely from a mill standpoint. Work for the mills, they are responsible for your bread and butter. The buyer is well able to take care of his end of the game.

The Shipping Force.

The sawmill proper carries only a general interest for the sales force, except on special orders and the percentage of these is small with the average country trade. Our real interest is in the planing mill and the shipping platform. This department is responsible

for the reputation of the sales office and can either retard or advance their efforts towards securing and holding a steady trade decidedly.

**The
Importance
of Shipping
Clerks.**

The shipping clerk and his assistant loom up before the road man as the most important factors around the mill. Judging from the salaries paid them and the education given them, they do not seem so important to the average operator.

These men should, as in the case of salesmen, have at least a working knowledge of the other end of the game. It has been a common practice for many years to afford salesmen periodical trips to the mill, but the idea of sending the shipping clerks out to the retail districts seems to have been entirely overlooked. Send them out with your several salesmen on a sixty-day trip, they will return much better prepared to handle their work intelligently. A tailor can make a better fitting suit of clothes by measuring his man personally than by working from a mail order. In this connection it would do no harm for a few of the sawmill owners to take such a trip. Many of them have not seen the inside of a retail yard for ten or fifteen years. Styles have changed in lumber during this time, and the real men behind the guns should get themselves up to date.

**What Mill
Operators
Might Learn
at Retail
Yards.**

These men would discover, especially in the Corn Belt, that practically all lumber, both common and upper grade, is piled under shed, thus necessitating the receipt of dry lumber or causing extra expense and great inconvenience in handling wet or green stock. They would find that blue lumber is unsalable at the same price as dry bright lumber. In fact, the average consumer thinks that blue stuff is already half rotten and he will not take it.

They would see the necessity of quick service and would not consider a letter from a retailer rushing his order so trivial a matter as they do now. Any lumber yard requires too large an investment of capital for the buyer to anticipate his wants over sixty days in advance. Lumber for north central points is in the hands of the carrier for from two to six weeks, and an order should not be held at the mill over two weeks at the most.

**Wet, Green
and Crooked
Stock**

There is absolutely no sale for mis-manufactured upper grade lumber in the better districts. It had better be remilled or worked into something else at the base of operations. Also crooked stock has to be cut up into short lengths, so this may as well be done at the mill. It will save the salesman from a cussing and maybe save the customer. In this connection, it is generally conceded that yellow pine grades as followed by the better class of mills are satis-

factory to the retailers with possibly a few exceptions. No mention is made in the rules as to wet or green or crooked lumber in the common grade. These features should be covered in some manner, as the mills invariably make allowances for these defects and there should be some standard rules governing the shipment of wet, green or crooked stock.

Orders should be loaded in accordance with the original. Such an occurrence as loading long on one length to make up shortage on another is very aggravating to the consignee. He orders in accordance with his wants and probably has some of the stock sold on bill. Also omitting an item entirely, though it be small, may prove embarrassing and expensive to the customer. The privilege of loading ten to twenty feet lengths on inch stock should not be abused as it is at the present time. A fair assortment of the various lengths should be loaded, instead of cramming the order on the undesirable lengths as is quite common practice.

Orders
Should Be
Filled as
Given.

The sale of lumber is effected through the medium of one, two or a combination of three principals, *i. e.*, service, quality and price. The salesman by soliciting only such orders as are desirable to the mill, makes quick service possible. The mill has no good reason for shipping other than high quality and quality embraces not only the right kind of lumber but the manner in which it is loaded. Good service and good quality pave the way for a good price.

Co-operation a Salesman Should Have From *the* General Office

By W. L. Henry

Chicago Lumber & Coal Company
Springfield, Ill.

Section 37 of the grading rules says: "No arbitrary rules for the inspection of lumber can be maintained with satisfaction. The variations from any given rule are numerous and suggested by practical common sense, so nothing more definite than the general features of different grades should be attempted by rules of inspection."

**Common
Sense in Sell-
ing Lumber**

This might be very aptly applied to the selling of lumber, especially that portion which refers to the use of "*common sense*." Not that it is unnecessary to have general rules for the guidance of the man on the road, but he should not be burdened with a lot of "red tape" and receive so many bulletins and instructions that he hesitates when a question confronts him and proceeds only after he has referred to "Hoyle" to ascertain whether or not there is a precedent. Give him all the necessary information in the way of lists of stocks you have to offer, price lists, etc., but do not lead him to feel that you have no confidence in his judgment and ability to cope with problems which arise from time to time and for which no fixed rule will apply.

**The Sales-
man's First
Asset Is
Confidence**

The first great asset of a man who is trying to sell your wares is confidence, not alone confidence of his own ability, but the knowledge that he has the full backing of the general office. At one time, some of the lumber firms even went so far, in depriving their road men of their identity, as to make out their route sheets and write letters to their trade, saying "our Mr. Jenkins will call on you" at a stated time. This creates the impression with the retail dealers that you haven't confidence enough in your man or he hasn't the ability to even figure out a route sheet.

**Office-Made
Route Sheet
Hampers
Salesman**

The second greatest co-operation the salesman can have from the main office is the feeling among his customers that you have confidence in him, and the route sheet is mentioned as one of the many things which subtract rather than add to this belief. To the average customer, the man who calls at his office and solicits his business is *the firm*, as it is the only part with which he comes in actual contact, and you are largely judged by the impression he creates. I saw recently where someone suggested the idea of writing to his customers to ascertain what they thought of your man. In the first place, if he stands well with them, you will soon find your answer in the orders brought before you, and if he isn't making the proper impression, the effect will soon be apparent, and your letter would only arouse distrust and accomplish no good.

**Keeping Sales-
men Posted
on Corres-
pondence**

A salesman should be furnished with copies of all correspondence which emanates from the general office to his customers, whether it is a quotation in regard to an unshipped order, tracing a car, a grade claim, a question as to discount or what not, for this enables him to form an intelligent idea of what a customer is talking about when he visits the purchasing office and is asked when car 76857 will arrive. The salesman says "this car passed Cairo

on the 26th and should be in the hands of your delivering line not later than tomorrow." Your representative has just repeated what you told the customer in your letter, but it strengthens that confidence on the part of the buyer in your man and leads him to believe that he is dealing with a "live wire," one who has his interests at heart and on whom he can depend.

I once worked for a line yard firm, and one of their strictest requirements was that the yard managers report just as carefully all overshipments as they did shortages, and I heard the head of the firm say the reason for this was that if he led his men to think he was dishonest in his dealings with the firms which were shipping him material, how could he expect them to feel otherwise than that he was stealing from other people, why not steal from him, so if you are unwittingly undermining the confidence your man has established with his trade and causing the buyer to become imbued with the idea you are suspicious of your man and are not sure of his ability, naturally, the customer thinks you should know your own employee better than he does, and forms the idea it would be well to keep an eye on him and incidentally on the firm, as the salesman is the exponent of the firm.

**Suspicious
Are Con-
tagious**

Some firms make the sad mistake of not allowing their man credit for orders received from their territory by mail. This is true even of orders on which the salesman has quoted the prices attached to the order, but which for some reason he is unable to secure at the time the quotation is made. I have been asked by retail dealers whether or not I would receive credit should they send an order to the general office on my quotation, being in a hurry for the material and not wishing to lose the time, after making their sale, which would be required for the order to go to my home address and be forwarded on from there, and, upon receipt of an affirmative answer, would say they would handle the transaction that way, and at the same time remark that they had dealt with firms which would not do this even when they specifically requested it, and they proceeded to comment on the unfairness of it, and to show their resentment of what they termed "not a square deal." Your man should be credited with the business from his allotted territory, notwithstanding the fact that customers write to the general office for prices and your road man, apparently, had no part in that particular sale. You may have received business from that customer before the man who is now working the territory started in for you, but it doesn't necessarily follow that

**Withholding
Credit from
Salesmen**

you would have continued to do so had the efforts of your salesman not kept you prominently before the purchaser, and, no doubt, in many instances you never had the account on your books until the salesman established it for you, yet you are not willing to allow him the just fruits of his labors, thereby assisting in creating the belief on the part of the buyer that your salesman is really a representative of your firm and you are giving him everything he is entitled to, just as you must to your customers if you wish to retain them as such.

Another practice on the part of some firms which places their men under a handicap, is the permitting commission men to carry your stock sheets and selling information, thereby creating actual competition for your men with your own stock. This is in nowise intended as an attempt to discredit the commission salesman, as he is undoubtedly a necessary adjunct to the marketing of the output of the firm without an organized traveling force, but don't try to carry water on both shoulders and "catch them going and coming," as you are not giving either your salaried man or the commission man a fair proposition. I know, personally, of instances where a firm's salaried man has quoted on stock, the dealer being unable to place the order just at that time, and before he could arrange to send it to the man who had originally quoted him, one of the commission men would happen to come along, and after learning the situation would persuade the purchaser to let him take the business, since he was authorized to sell the stock and could protect the same prices and thereby secure a commission, and that it would make no material difference to the other fellow, as he was paid a regular salary. You are, therefore, paying a commission on an order which would have come to you anyway. If your salaried man is wideawake there are times when he will see an opportunity to secure more than the absolute limit for a certain item, and he figures accordingly. The other fellow quoting on your stock doesn't happen to think of this and goes to the bottom and secures the business at prices which are acceptable to you, but at the same time make it appear that your salaried representative is trying to overcharge the customer or has made a mistake in his prices, either of which is not conducive of strengthening the customer's confidence in him.

A salesman should be very careful as to promises he makes regarding time of shipment, etc., but when he has once committed himself and has transmitted to the general office the sum and sub-

**"Carrying
Water on Both
Shoulders"**

**When Sales-
men and Com-
mission Men
Conflict**

stance of what he has told customers, every reasonable effort should be put forth to see that this is scrupulously complied with. If your man is possessed of a reasonable degree of intelligence, he will not intentionally promise something out of reason. We all make mistakes, and your salesman is no exception. When that occurs don't write a letter to his customer and say "our Mr. Brown made a mistake of 25c per thousand on the item of 1x4-16 B and Btr E G Flg. etc." If it is of no material consequence, enter the order and write your man and call his attention to the discrepancy and ask him to guard against a repetition. If it is of sufficient magnitude that you feel you can't handle the order without a revision, advise your salesman and let him communicate with the customer. They are personally acquainted and your representative knows how to handle the transaction so as to save the order and leave the customer in a pleasant mood. Since I started working on this paragraph an incident occurred which illustrates the idea. I sold a man a carload of two items from a surplus stock sheet. The office wired me that one item, or over half the car, had been previously disposed of. I called up my man and explained the circumstances and persuaded him to increase the minor item to make a full carload. It is good policy to allow your representative to meet his customers half way on any reasonable proposition. I have heard of instances where a firm would assume an arbitrary attitude, where the amount involved would not equal half a day's expenses of their road man, and offend the customer, and in the long run spend ten or twenty times the total figures which caused the rupture in business relations in an effort to regain the patronage thus lost.

When you receive an inquiry for prices, if the quotation can be made by your salesman and not lose more than one day's time, it is a good idea to refer customer's letter to him unless the insistence of the occasion suggests quoting directly and sending salesman a copy. If you take the matter up through your road man he can handle that particular transaction more effectively than you could, and the retailer is once more impressed with the fact that you really have a *representative* in fact as well as in name. It is well for the salesman to have a permanent address and to see to it that his customers are informed of this so they will be writing to him for prices, etc., and to arrange to have these communications forwarded to him out on his territory with all possible dispatch.

**Backing Up
the Promises
Salesmen
Make**

**An Instance
in Point**

**Letting
Salesmen
Answer Price
Inquiries**

Helping Sustain the Customer's Confidence

It sometimes happens that a buyer places an order with a salesman who he personally dislikes, but the high character of the firm overcomes this feeling. This is the very rarest of occurrences, however, but it is quite often true that an order reaches a firm simply because the purchaser has a friendly feeling for the man who is soliciting the order and has found him to be honest and truthful and knows his promises are sincere, and relying on the integrity of the firm, as judged by its personal spokesman, he entrusts the order to him, and all the efforts you can put back of your man in sustaining this confidence is an investment which will pay compound interest.

As to Holding Up Orders

Don't hold the order up for an unreasonable length of time or ship inferior stock, and then wonder why a larger order is not forthcoming on your salesman's next trip. There are other firms which are shipping good lumber and their salesman is perhaps just as capable as yours and they will get the preference next time if you have disappointed customer in time of shipment or quality. When customers write you, urging prompt shipment, don't ignore their letters. Answer them as quickly as possible and give all the information you can without committing yourselves to shipment within a certain time which you are unable to accomplish. As a general thing nowadays, lumber is bought for immediate needs, and it is not strange the buyer becomes nervous when his order has been out quite awhile. He is entirely out, has some of it sold, and not even an invoice. You can render no greater co-operation in retaining trade, after once established, than by being prompt in executing orders and shipping stock of satisfactory quality.

Co-operation and confidence should be synonymous. Not confidence of the "gold brick" or "shell game" variety, but "team work" consisting of a thorough understanding between you and your representative and the salesman and his customers.

Reaching *the* Consumer

By Hugh McVey

Business Manager, "Successful Farming"

Des Moines, Ia.

Advertising is a subject that is treated in a good many different ways. You might ask ten speakers to talk on the subject of advertising here this morning and they would not repeat on each other. It reminds me of the story of two maidens—two women about forty years old. One of them had been married and was being married again quite successfully. The other lady had never been married, and she went to her friend and said, "How is it, Mary, that you have had your second chance to be married and I haven't had any?" "Well," she said, "it is sort of this way: It is not in the form, or in the hang of the dress, but it is by the 'come-hither' of the eye that we women get the men." (Laughter.) That pretty nearly covers everything. The reaching out through the copy, and the billboard and the circular is the way to get hold of the consumer, and it is very, very hard to define. I want to review advertising a little bit for you; you know we all say it pays to advertise. Some years ago that is about all any of us knew about it, and I don't know that we know much more yet; but advertising has followed a very definite evolution. We have gone through the bulk circulation idea—that is, if a man got his ad to enough people and got in a big enough medium he would win. We got over to the question of copy. One man alone is supposed to draw fifty thousand dollars a year for writing copy. And then we got to the place where we found that copy didn't put the sale across. And then we went to the consumer with the anti-substitution campaign. You remember that the magazines several years ago made a great mistake. You would never recognize it as a mistake, but it was a mistake to go to the consumer and tell the consumer that the dealer had no right to substitute. That was waving a red flag in the face of the dealer. Now, the dealer can substitute, nine times out of ten, especially in a small town where he knows his trade; and we didn't get anywhere with that idea. And then we came along with this "true" business, and we got

Some
Peculiarities
of Advertising

**Advertising
Is Service**

to cleaning up our copy, and we threw a lot of the fake stuff out and put laws in every state of the Union almost—thirty-seven states; and we tried to clean up the copy. But after all we get down to the one point that advertising is service, and to get the big game in advertising is to make the dealers see what advertising means to him; to get him to couple up with us, and to get him over the idea that advertising is going to rush a lot of sales into him, because advertising alone can't do that. Let me illustrate what I mean, by a clothing sale. I am a farmer up near Shafton, Iowa. I walk into the clothing store. I meet Mr. Larrimore, the proprietor of the store. I say, "Mr. Larrimore, I want to buy a suit of clothes." He says, "All right. I think here is a garment that you will like. Notice the hang of it. The fabric is good. I can recommend it. The buttonholes are all worked nicely. It fits you well, and it is a very good garment." Mr. Larrimore exercises his salesmanship on me, and at last says, "That is Hart, Schaffner & Marx goods. They are the greatest dealers in the world." That is what he did. He coupled up a valuable asset—the advertising that Hart, Schaffner & Marx have made in that line. Another story: Up at Hampton, Iowa, an automobile dealer learned that a farmer out in the country was very likely to buy a car. He called on the prospect and asked for a demonstration. The dealer said, "I would like to show you my car." The farmer said, "I have practically decided to buy." He said, "I would like to show you, anyway." So he started the demonstration and was careful not to say anything to the farmer that was not contained in the advertising of the Hudson Automobile Company. Now, he just banked on the fact that that fellow had been reading the advertising of the Hudson company, so instead of diverting his mind, he caused the same impression of ideas that the advertising had been reaching him on. After he made the demonstration, he went back to his office. The other dealer rushed out and attempted to close the sale. They got into a little argument over something that the Hudson dealer had said. The farmer said, "I believe that is so. I believe what the Hudson man said to me is so, and I think that is what I read in the paper the other day," and he went and got his farm paper and showed the other dealer, and said, "There it is." Now, you follow exactly the same line of your advertising. Keep reminding them that there is an asset out in their territory that has already been

**How Advertising
Helps
Make Sales**

built. Now, you get your friends the dealers to reach out and meet your firm half way. Advertising can't do everything. They must meet you half way. Just tell your retailers about it on your next trip around, and I will pay you fifty dollars if it don't work. (Applause.)

Selling Cost, Direct *and* Indirect

By W. M. Beebe

Manager, Yellow Pine Department
Long-Bell Lumber Company
Kansas City, Mo.

First, we must consider some of the methods of selling and their cost. The use of traveling salesmen is as old an institution as the manufacturers themselves, and, aside from the directing head located at the central office, are the most important factor in the distribution of lumber products. The buyer of lumber does not, as does the buyer of clothing, millinery and similar goods, make frequent trips to central markets or style centers, but waits for the representative of some concern with lumber to sell to call on him, and I think it is safe to say that 95 per cent of the lumber bought is bought of the traveling salesman, or because of his efforts. There are very few examples of success where manufacturers manage to sell their product through the mail by lists, but I think you can count on the fingers of one hand those who have been successful in this method. I think a close analysis of the prices they received would, in nearly every case, disclose the fact that selling through salesmen would have been much more profitable, from the standpoint of net results. Especially would this be true where the concern so operating did not have access to knowledge of the market obtained from concerns that sold through salesmen.

The lumber buyer usually places his order where he can get the best service and the best goods, at the lowest prices, but when many competitors have the same price, quality and terms, the personality of the salesman is usually the determining factor in the placing of the order. While I have heard manufacturers who

**The
Importance
of Traveling
Salesmen**

**Personality
a Factor
in Making
Sales**

did not sell through salesmen, point with pride to their selling cost, I have not heard many of the same manufacturers point with the same pride to any high average price received for their product over a period of months. It would be easy enough to sell two hundred million feet of lumber through lists and one or two salesmen, at a selling cost of perhaps 10 cents per thousand, but the manufacturer who pursues this plan would probably have to take \$1.00 per thousand less average price for his product than does the manufacturer who sells it through a well organized sales force, at a cost of say 16 cents per thousand for salesmen's salaries, and about 12 cents per thousand for traveling expenses, or a total of 28 or 29 cents per thousand for salaries and salesmen's expenses, which I have found by investigation, to be about the average cost of many of the larger manufacturers that sell their product through salesmen. This cost, of course, does not contemplate administration, officers' salaries, office traveling expense, rent, telephone, telegraph, postage, stationery or advertising expenses. These will be considered later.

**The Items
of Selling
Expense**

Let us consider a few items of expense as applied to salesmen alone. We are all salesmen, but some of us are forced to look at expense accounts in a little different light than we once did. We should analyze expense accounts in the same way as we do efficiency in manufacture, and we should not economize to the extent in either so as to affect our efficiency. Economy is one thing that a salesman should keep in mind in making expenditures for his company, and I mean, economy in time as well as money. The average salesman does not give enough consideration to these matters, and it is my observation that the most successful salesman is the one who does give it the greatest consideration. We all have spent too much time with some good fellow who doesn't give us business, or who lives in a town that has a good hotel, and wasted much of the company's time and money on towns that could be eliminated from the salesman's route sheet with profit to himself and his company. I will make a guess that nearly all of us have in mind such a buyer at this moment, also, that you can all think of some dealer that you should see more often, but because of not being accessible, or because a call means arriving or leaving his town at an hour when you prefer to be sleeping, you leave him to some other salesman who is a little less choice of his comfort, and who perhaps is rapidly becoming your greatest competitor in your territory. Think it over.

You nearly all know the dealer I mean, and he is a different one to each of us.

Let us consider the hotel expense. In the small towns there is no choice, but in the larger towns there are usually hotels that have rates on the European plan, that will charge \$3.00 to \$4.00 a day for a room, while there are others that are good enough to maintain your respectability and comfort, and the dignity of your company, at about one-half the cost. It is there you will find the most successful salesmen. Many salesmen fall into extravagant habits, and indulgences of this kind are much harder to resist when a liberal expense account will take care of them than if paid from their own pocket. I will venture to say that if you will investigate a little, you will find the higher priced, fashionable hotels are filled with salesmen who have their expenses paid by their firm, and the other hotels mentioned are full of the men who are paying their own expenses, and in other lines you know that the man on the percentage basis is the one that is making big money.

**Saving on
Hotel Bills**

There are other items of direct selling expense the salesman can cut down very materially if he watches closely, such as transportation, taxicabs, telephone and telegraph. We will pass these, although considerable might be said about long jumps to good hotels, and sending wires or telephoning, where a 2-cent stamp and some of the hotel stationery would have answered the purpose a great deal better, at one thirtieth or one hundredth part of the expense, had it been thought of before the train left earlier in the day or evening. And a little exercise in walking a few blocks to the station or a customer, might give one a better appetite for some of the poor meals that he often is forced to eat while on the road, or to pass the time that he otherwise might have spent waiting around the hotel lobby for the dining room to be open. By taking this exercise it would not be so necessary to get to headquarters on Friday night so as to take exercise on the golf links, tennis court or baseball field on Saturday.

**Exercise for
Health and
Economy.**

The incidental column in the expense account is one direct expense that I will venture to say is watched as closely as any other by everyone who has to O. K. expense accounts, or those who only see it in the monthly statement.

There is nothing which I presume would bring out more argument among salesmen as to actual results obtained in entertaining customers or doing them favors with the company's money, for

**The Item of
Entertaining**

the sake of present or future results in securing orders. Some are too conservative, and some lean to the other extreme. It is not necessary to be extravagant to get good results, and the secret is to do the right thing at the right time. The salesman who is not extravagant in his own personal habits does not find it necessary to be extravagant with his customers, and he doesn't find it necessary to live up to established precedents in the way of expensive dinners, lunches or cigars. Once you have established this habit, it is sometimes embarrassing to break away from. These expenses amount to but little with each individual customer, but in the aggregate they amount to a considerable sum in the course of a year. You should figure out to see if you get an adequate return on these expenditures. We should always remember that spending the company's expense money is simply putting our hand in the cash drawer, and, as business men, we should consider it from an investment standpoint.

**Wasting the
Company's
Time**

I would like to add, also, that spending time while on the pay roll, in pursuits other than pursuing an order, or attending to the company's business, is nothing more nor less than putting one's hand in the cash drawer. We all have known of salesmen who, under one pretext or another, rarely get away from headquarters until Tuesday morning, and many others who always make it a point to be back at headquarters by Friday night, but you have never known any such salesmen that are recognized as the high-salaried, successful salesmen. A salesman who will take the company's time and accept a salary for it for one or two days a week that he does not work and devote his time to the company's interest, is pursuing a plan that he would not do if he was under the watchful eye of the general office, and the chances for his promotion are far less than those of the man who possibly is less gifted or brilliant as a salesman, but who by calling on a larger number of buyers increases his chances greatly for securing business.

**Congenial
Companions
Other Than
Customers.**

How many times have you all known of salesmen attending conventions, who, instead of spending their time with a customer who might have appreciated entertainment, would pick out one or two congenial souls that were probably competitors, and spend most of the week in each other's company, while the customers that they should have been entertaining were almost unnoticed? This is a form of indirect selling expense that probably costs their employers a great amount of money in the aggregate.

There is not a great amount of itemized statistical information that I have been able to secure regarding the cost of selling lumber, that is, covering a large number of operations. I have, however, itemized statements of selling cost from nine of the large concerns. As I have stated, the average cost per thousand feet of these concerns, in salaries, is about 16 cents, and the average traveling expenses of these salesmen is another average of 12 cents per thousand feet, or a total of 28 cents. The average selling cost, including administrative, office salaries, office traveling, salesmen's salaries, salesmen's traveling, rent, telephone, telegraph, commissions, postage, stationery supplies, advertising, and miscellaneous charges, ran on an average of 56 cents per thousand for the year 1915. This covering nine of the larger manufacturing concerns in the yellow pine business, all of whom sell their stock through salaried salesmen. The average for each item separate is as follows:

Average Cost
of Selling
Lumber.

Administrative.	\$0.0252
Office salaries . . . . .	.1244
Office traveling . . . . .	.0169
Salesmen's salaries . . . . .	.1597
Salesmen's traveling . . . . .	.1169
Rent . . . . .	.0157
Telephone and telegraph. . . . .	.0185
Commissions. . . . .	.0897
Postage. . . . .	.0103
Stationery supplies . . . . .	.0131
Advertising. . . . .	.0192
Miscellaneous. . . . .	.0228

The comparative cost sheet gotten out by the Southern Pine Association includes sixty-nine manufacturers, and the average selling cost to date, the first four months of this year, has been 68 cents per thousand. This includes, I believe, between 35 per cent and 40 per cent of the entire membership of the Association, and probably represents about the average selling expense of the yellow pine industry.

I mention the comparison of the ten concerns as against the larger number, to show that there is a variance between the very highest efficiency and the average of a larger number of concerns of about 12 cents per thousand in selling cost, which would indicate that greater efficiency in selling lumber can be maintained than is now true.

**High and
Low Selling
Cost.**

The highest selling expense of any concern reporting was \$1.36 per thousand, for the first four months of this year, while the lowest selling expense for the same period was \$0.112, and I believe it is safe to say that the average price received by the concern that had the \$1.36 average cost to sell as against the concern who sold for 11 cents would easily be enough higher to make up the extra cost to sell. For I believe, taken as a general proposition, that the salesman or office that secures the larger volume of business at a very low selling expense, does so at the expense of the price per thousand received, as low prices mean large volume, which means a low selling expense, and, on the other hand, the concerns that incurred the greatest amount of expense in selling are usually the concerns that secure the highest price for their product.

**Difficult to
Fix a Fair
Average.**

It is almost impossible to arrive at any conclusion as to what should be an average selling cost as far as a salesman is concerned, and we should not attempt to judge a salesman in any way by his selling cost, unless taken over a period of months or years, for the reason that conditions in a territory are subject to such sudden changes. The manufacturers' selling cost is not a true indication, in any sense, as to the best net results obtained, except where a concern has an extremely high selling expense, it might indicate lack of efficiency, and where it is extremely low, it would indicate, in nearly all cases, that they had sacrificed their price so as to keep down the selling expense. It costs much more to sell lumber in one or two carloads at a time through a salesman to the average small buyer, and receive probably a \$19.00 average, at a selling cost of 75 cents per thousand than it does for one man to sell a large buyer by meeting his idea of the market, anywhere from five to ten times as much lumber as the salesman could sell to the smaller dealer, at an average price of \$18.00 per thousand, with a selling cost of perhaps 11 cents. As far as net results and beneficial effect it would have on general market conditions, I believe there is no argument as between the two methods.

**The Salesman
Can Regulate
Selling Cost.**

As salesmen, the cost of selling lumber, both direct and indirect, lies in our hands, to a very large extent. Loyalty to our firm, with the conservation of the expense money placed in our hands, and with the time that we devote to the business that we are receiving a salary for, are very potent factors in the selling cost of lumber. Especially at times like those we have been going

through during the past few years, the selling cost has been large, as compared with the general profits of the business. It is a sad fact that the selling cost is usually the very highest at the time when the market is the lowest, and when our employers are least able to stand the expense. Let us at all times remember that our efficiency means keeping the selling cost down as much as is consistent with the securing of the highest price for the product we have to sell.

The average cost of all shipments for the first four months of this year for sixty-nine mills reporting to the Southern Pine Association, shipping 943,029,970 feet was \$14.50 per thousand and the selling expense amounted to 68.3 cents, or .046 per cent of the whole. If the selling expense of the sixty-nine mills reporting to the Association that now have this average selling expense for the first four months of 68.3 cents had been reduced to the average of the nine mills that I am familiar with, to 56 cents per thousand it would mean a saving of 12.3 cents per thousand. These nine concerns I have reason to believe received at least an average price for their product that would be fully up to or above the average price received by the entire sixty-nine concerns reporting. This would mean a total saving to the 35 per cent of the Association that are now reporting costs to the Association of \$115,992.68, or on this same basis of about one-third of one million dollars to the manufacturers that are now members of the Southern Pine Association.

**Relation of
Cost of
Production to
Cost of
Selling.**

Summing up the situation, the salesman who keeps ever a watchful eye on his expense account and uses his maximum energies in the service of his employer, even though he may not be as bright as others, is the one who will be promoted while the one possessing a brilliant mind failing to watch his expense account and serves less loyally his employer, will ever remain a traveling salesman or serve in some other position with less reward.

How Salesmen Can Co-operate *with the* Association

By Ben S. Woodhead

President, Beaumont Lumber Company
Beaumont, Texas

I am not here today to explain or justify the principle of co-operation, for the very essence of that principle is so well understood that such a course would take unnecessary effort and time. Co-operation needs no defense or explanation; and it is a safe assumption that you thoroughly comprehend its principles and value. The positions you hold and your natural intelligence indicate your ability to participate in our proposed co-operation, and the mere fact that you are now here listening to addresses made on this and related subjects, conclusively shows your willingness to act your individual part in this great work.

It is no reflection on your own qualities for it to be deemed advisable to have some suggestions made, as to how a salesman may best further the work of the Association through the means of co-operation; for, sad to say, it is only recently that the manufacturers and dealers themselves have awakened to the benefits to be gained through working in harmony. Indeed, I might say that it is only within the last two years that really vigorous, intelligent and systematic work has been undertaken along this line.

While the work of the Southern Pine Association is designed primarily to benefit directly the manufacturing end of the yellow pine lumber business, it must be constantly borne in mind that this cannot be done properly without giving due consideration to the interests of every factor in the business. These factors include the buyer of lumber, the user thereof and the individual welfare of all who are engaged in its manufacture, sale and use. You can see, therefore, that our interest is very broad and far-reaching; that interest follows the manufactured pine through its final use in construction, and lasts through the long years it is in use, even unto final chemical dissolution into other elements.

The work of trade associations is indorsed and approved today by all clear thinking business men, and but recently the Federal Trade Commission has spoken in admirable terms of the

**A Recent
Awakening
Among
Manufacturers**

work that such organizations may accomplish. Approval has not been withheld by even the President himself, for he, in a recent letter to the Hon. Edward N. Hurley of the Federal Trade Commission, stated that he thought the encouragement of association work by that commission was a wise thing.

The best method to promote association work is to disseminate in the quickest way, among the largest number of interested people, the greatest intelligent comprehension of the principles and benefits of co-operation. The Southern Pine Association aims to use every channel of distribution at its command for this express purpose. Heretofore, strange to say, proper use has not been made of what is perhaps, next to general newspaper and lumber trade paper advertising, the greatest asset which the Association possesses for the accomplishment of this end. And what live asset is that? I refer of course to the services of its thousands of traveling representatives, who, when primed with enthusiasm, loaded with facts and trained to a high degree of efficiency, can do more with a specific individual, in an intelligent and trained talk of thirty minutes, to further the cause of co-operation, and thus association work, than any other known agency. A trained traveling representative may be a package of dynamic energy. He should also aim to be an electrical conductor of the stored knowledge, or power of our Association.

**The Salesman
An Association
Asset**

It is a recognition of the value of the personal element in negotiating business transactions, which is responsible for your positions. If you could not satisfactorily close a specific transaction better than any kind of a letter or telephone conversation, you would not be holding today the honored and honorable position of traveling representative. You will note here that I make use of the phrase "traveling representative." I like that term better than traveling salesman. Today a man who goes on the road for his firm is not a salesman alone; he is, as a rule, the general representative of his house in many senses. It is a far cry from the days of the "drummer" of twenty years ago, to the high-class, well-bred gentlemen who represents in a dignified way his firm on the road today. Today the representative of the firm out on the road handles in many cases a multitude of affairs. While the first object is, of course, to secure orders at a satisfactory price, and in accordance with the rules of the house, yet today that representative is liable to be called on to make settlements, adjust claims, cure old sores and heal new ones, assist the

**"Representative"
As Well
As "Salesman"**

dealer in buying and selling yards, help to persuade an architect, and a thousand things which requires an intellect of a high order; he is a man of dignity and one who is at all times a gentleman.

It is a recognition on the part of the Southern Pine Association of all these splendid qualities possessed by you gentlemen, together with the unexampled opportunities you have, which is responsible for this call to you.

Now I shall endeavor to confine my remarks to the topic of how a traveling representative may best promote the interests of the Association. There are so many other papers to be read, and which have already been read, on so many subjects connected with the general trade extension movement, that it is difficult to prevent overlapping into the province of some other speaker. There has not been time to prepare the addresses and compare them for the purpose of eliminating any repetition, and therefore, if I should through inadvertance touch on any phase which has previously been presented at these sessions, you will understand the reason therefore, and excuse me.

How Best to Help the Association

How may you best help your employer and the Association as a missionary? This perhaps can be answered quickly by a quotation from the Scriptures: "Be able to give a reason for the faith that is within you."

You will recall previous references of mine to "trained representatives." It is axiomatic that you cannot tell that which you do not know. That heretofore you may have been ignorant of the purposes and objects of the Southern Pine Association is an admissible and pardonable excuse; that you should be so hereafter admits of no defense, and would belie my interpretation of the words "trained representatives."

The literature published by this Association is the encyclopaedia of the trade. Unlike other, it may be obtained free, merely for the asking. Patient and studious perusal of these documents will enable any one of you to become expert in, and discuss with authority almost all phases of association work. To do missionary work in this connection it would seem to me, therefore, that the first requisite is a desire for the welfare of your industry, its Association and your employer; and naturally resultant therefrom, of yourself. I cannot conceive any man lacking in this requisite, but it is not at all improbable that such a desire has been more or less dormant. What we want to do is to vitalize that desire to the pitch of healthy enthusiasm; for healthy enthusiasm, forti-

fied with an intelligent grasp of facts, will surely fit you to preach the gospel of Southern Pine. I am quite sure that what you have already heard relative to the work that is being done by the Association has already kindled that dormant desire into the vital flame of enthusiasm, so we may now safely proceed to a consideration of your training.

You have all seen, doubtless, that when a politician, a missionary, an industrial or commercial lecturer, or any other man, speaks on any subject from the platform, he avails himself of every legitimate gesture, trick of oratory, fact and figure to support his proposition. Let it be so with you. If you will thoroughly familiarize yourself with the wealth of literature issued by the Association, and then acquaint yourselves with the efforts that the Association itself is putting forth through many other and varied channels, you will soon be well equipped to storm the trenches of ignorance with the 42-centimeter shells of fact and knowledge.

**Ammunition in
Association
Literature**

I dwell somewhat on this point of self-culture, or training, because it is to my mind the keynote of the whole proposition. It is "preparedness" brought right home to yourself. But training is not merely the miscellaneous accumulation of sundry facts. They must be marshalled in your mind in logical sequence; they must be correlated to each other and to the subject; they must be so well understood, digested and analyzed and card-indexed in your mind that a ten-minute talk by you to anyone on Association work should immediately stamp you as a man of parts and power. Thorough mastery of one of these thoughts will soon enable you to give the dealer a talk like unto a mental birthday cake. And remember, you can get all the ammunition you want from the Association, with additional powder for your flask by observing and using the work which it is doing. There is no necessity to call your attention in detail to what is being done, as by this time you have doubtless assimilated this in very large part, but perhaps a brief reference to some of the more important phases will not prove tedious.

I want to call pointed attention to the greatest help you will find, and that is, to the advertising which the Association and your various employers are doing generally, and the lumber trade papers. That lumber buyer who does not illuminate his business existence with the light of at least one lumber trade paper, is poking about in the dark of commercial stagnation—and affording you an opportunity of getting a good price. But most of your customers probably take one or more of these papers. I can cer-

**Advertising
Help for the
Salesman**

tainly say that they will be of great help to you in your work. They have always loyally supported the principle of co-operation, and nearly every issue contains some article on trade extension worth studying yourself, and, after being mastered, worthy of discussion with your customers.

The advertising campaign of the Association has been given more keen thought than perhaps any other feature of the work, and perhaps more has been spent on it than on any other department. Our advertisements have been placed in the trade papers, not only the strict lumber trade papers, but the trade papers of allied industries, farm papers, and at specific times in the leading daily papers in the larger cities. This campaign is not conducted in any haphazard manner, but the services of an expert advertising manager have been secured; and, speaking from my own personal point of view, I must concede he can dig up more facts and figures, and marshal them in more attractive logical sequence in regard to many features of our business, than I thought was possible. It is only an illustration of the advantage of specialization. You will observe that there are four special departments in this work; the preparation of books and pamphlets and publicity literature; the writing and placing of display advertisements in farm journals and magazines; the devising and creation of all forms of dealer co-operation, in which latter is included the free furnishing of cuts to dealers for local paper advertising, and lastly, the dissemination of prepared stories and articles dealing with the utility of yellow pine. These booklets are particularly interesting, and very informative. They are being prepared on every phase of the yellow pine lumber industry; you may soon therefore obtain a most complete encyclopedia, embracing the treatment of all features of trade extension work as applies to yellow pine. Don't shut the mill down; increase the demand.

Read the lumber encyclopedia, brethren; for by reading these works you become a full man; write letters and articles on these subjects, for thereby you become an exact man; and after having read, digested and written, you are then ready to talk on these matters, and much continued, intelligent talking, maketh a ready man.

The Association is doing other sorts of advertising, too. It has trained engineers who can talk wood block paving in a technical sense. And say, do you ever notice whether the streets upon which you walk are paved with wood block, or with other materials? Do

**A Carefully
Planned
Campaign**

**Salesmen
Should Read
Write and
Talk**

you ever notice paving advertisements in the local papers, or absorb advance information in regard to proposed paving? If you do, why not pave the way for wood block by talking about it? Advise your firm of it. Write to the Association direct at New Orleans, giving them all obtainable facts.

Wood block paving and wooden silo material is the hope of the lumber manufacturers, to take the place of the large sawed railway tie business which has now practically disappeared. The possibilities of these two articles for the consumption of yellow pine are staggering in their immensity.

And here is another thing. Do you know that it is to the traveling representative that we have to look, almost exclusively, for the introduction of short lengths into various channels? You can add wonderfully to your earning power by learning how to show a dealer where he can use these advantageously. Still another effective method of promoting the trade extension work, which can be very profitably pursued, is to examine carefully into the possibilities in each town you visit, for the further use of yellow pine. There is scarcely a factory that does not use wood for some purpose, be it only for crating. The strength of yellow pine might appeal to them, if they are not already using it. The local traction companies frequently buy sawed ties and repair lumber direct from the mills. Be inquisitive; digest the information. Load up! Because you cannot unload a wagon until it has first been loaded.

There is many a buyer of yellow pine who buys, grades, uses and handles it through every phase of the transaction, without ever being really aware of what he owes to co-operative work of the manufacturers in producing the rules, regulations and customs under and by which he does business. Who made the grading rules? Some dealers and buyers don't know. Some tell you that the manufacturers did—bad luck to 'em—which is the reason they are so unsatisfactory. If you are well informed you may now retort courteously that the dealers and the manufacturers will hereafter make the rules. Find out how this is being done, and tell them.

Do your friends among the dealers and buyers know that they may have the use of the inspection department for their own needs, in case of disputes with architects and inspectors? That they may have an expert engineer, with the compliments of the Association, to advise with local people on street paving? That they can get vexed questions of rates and traffic regulations

Trade Extension Work for Salesmen

The Meaning of Association "Service"

straightened out by means of the Association? That the Association will answer any sensible and reasonable question about yellow pine? If they do not know these things, tell them, and keep on telling them; and if you have a friend who knows them all, then you had better sit at his feet and learn, for he is indeed an up-to-date buyer, and a well informed man, and you should remember that old Eastern adage, transposed to fit modern conditions,

"He who knows, and knows that he knows, is wise! Follow him."

The *quid pro quo* governs all the relations of commercial life, and if you do all these things and give the necessary extra time to equip yourselves to handle these matters intelligently and well, you must naturally know where you will come in. The more knowledge you have about the commodity you have to sell, the better equipped you are to sell it, and consequently you can increase your sales both as to quantity and quality. There is not a man sitting before me here today who could not materially increase his individual compensation, if he were able to show an increase of 25 per cent in his sales. Many of you aspire to better positions than you now hold. The man who gets the better position is the one who fits himself for it before the job is ready. Most general sales agents have graduated from the ranks of travelers. Many general managers have evolved from general sales agents, and quite a number of presidents and owners have come from the rank and file.

But even if no material compensation came to you immediately, there would be that inner feeling of self-satisfaction which comes to a man when he enters into the ring of competition, and knows that whatever angle the fight may take he is competent to hold his own. He has achieved a dignified position among his fellowmen, and can lie down at night with consciousness of duty well performed.

And lastly, if you buckle down to this work, and are able to hold up your end of it, skillfully, untiringly and pleasantly, under stress of all kinds, I can truly say to you, gentlemen, that you will be worthy of that epitaph which some people claim Bret Harte wrote on a friend of his:

"He did his damndest. Angels could do no more."

Superior
Knowledge
Means Per-
sonal Profit

Standard Mill Construction

By Robert S. Lindstrum
Illinois Chapter, American Institute
of Architects
Chicago, Ill.

I will now endeavor to talk to you for a few moments and tell you without the use of too many technical terms how yellow pine timbers can be successfully introduced and used in the construction of various types of buildings and how you, the salesmen, together with myself, an architect, can here thrash out the difficulties we have encountered in the past in trying to get together on a harmonious basis and have a thorough understanding as to just what you have to sell, and what we can expect to get out of a sales transaction.

**Promoting
Yellow Pine
Timbers**

In the past few months the barrier that has apparently stood between architect and other trades connected with building operation, and especially the lumber interests, has been removed so that now we can meet each other and better understand each other, thereby working more harmoniously for each other's interest and it is in that spirit I hope I am talking to you today.

**A Trade
Barrier
Removed**

One of the most successful of our large lumber operators at a recent meeting in response to a request by the chairman to say a few words in reference to the lumber industry for the enlightenment of the audience present, responded in a few words that hit the nail on the head by openly confessing that the lumber interests have been asleep at the switch, and if the switch is locked the main track is thereby closed. By the main track, I mean the right-of-way and unobstructed route from the lumber manufacturer to the building interests.

From lack of experience, and enlightenment, from men who really know about lumber and its characteristics the architect has been left, against his own wishes, to solve the problem of lumber and lumber specifications alone.

**The Archi-
tect Left
Alone to
Solve the
Lumber
Problem**

Each architect naturally is supposed to have some sort of an artistic temperament which sometimes may make him a fitting subject for an asylum. In his period of illusions he sometimes embellishes the language in his specifications so that within forty-eight

hours after writing them, he, himself, the architect supreme, cannot interpret his own writings. Therefore, how can we expect the next man in order, the contractor, who only reads a specification for profit, and who knows that the architect himself cannot interpret his own specifications, proceeds to interpret them only for his own profit.

The contractor having this power vested in his charge, his decision necessarily becomes final and binding, as the lumber manufacturer receives a list from the contractor giving the sizes of the material, also the quality to be furnished, for a structure. The lumber manufacturer does not know for what purpose the lumber is to be used, consequently without any question whatever he furnishes the lumber of quality ordered by the contractor, and bills him for the amount furnished.

The majority of contractors do not carry a sufficient amount of bank balance to meet all claims or bills for materials entering into the building, therefore, the contractor must necessarily rely upon a certificate from the architect to the owner for money to meet his current bills.

In other words, the manufacturer of lumber, the lumber dealer, as well as manufacturers of all other materials entering into the building, must finance themselves for a certain length of time, pending the receiving of money from the owner.

It is when certificates are called for by the contractor that the architect, with his wonderful knowledge of lumber, first visits the building to critically inspect and ascertain if the lumber furnished makes it safe for him to issue a certificate to the contractor for payment to the lumber dealer for lumber furnished by him.

It is then at that critical moment when the contractor, the lumber manufacturer, and the dealer, are forced to resort to arbitration, as to what was specified and what was delivered at the job. Arbitration which results ultimately in exposing the ignorance of the layman, as well as the professional man, called the architect, the master builder called the contractor, and the lumber manufacturer or dealer.

Generally, the arbitrator, who usually is a technical lawyer and who does not know the difference between an architect's specifications and a fairy tale, steps into the arena, and his decision becomes final and binding, which naturally results in a greater separa-

The
Contractor
Figures for
Profit

The
Contractor's
Finances
Limited

Then
Comes a
Critical
Moment

tion between all parties concerned, and a financial loss to the lumberman.

But just at present the atmosphere is somewhat clearer, due to educational campaigns, such as the ones you are now holding, and likewise the intermingling of the architects, the lumber manufacturers and the lumber dealers in heart to heart talks at open meetings, which are becoming more and more instructive, and are creating a closer friendship so that the architect not infrequently calls the salesman or sales manager representing the lumber interests into his office to discuss thoroughly quality rather than quantity and the lowest possible price, thereby intelligently writing a lumber specification that can be interpreted only one way by all concerned, leaving the arbitration lawyer to seek his remuneration and employment elsewhere.

Here we are face to face, you gentlemen representing the lumber interests, and I personally representing the profession of architecture, consequently there is no more fitting place, and meeting ground, to discuss for a few moments our future relations, than at a meeting such as the one you are now holding here.

No doubt you gentlemen know that in the past it has not been so easy when calling upon an architect to get by the office boy and through the door leading to the private office and to meet the architect himself. You, therefore, naturally ask yourself the question, why the lumber salesmen cannot as readily have an interview with the architect as the salesman representing other materials that enter into the construction of the building. That question I will try to answer to your satisfaction and enlightenment. There are many salesmen that in the past when meeting an architect have forgotten to practice the old virtue called "honesty." They have not always been honest with themselves when they have led the architect to believe that the lumber specified was the best lumber of its kind, regardless of quality or of the place where it was to be used. We all know that there are various kinds of trees in our forests, consequently various kinds of lumber in those trees, therefore if you are a salesman and representing oak, it might be wise to tell the architect that there are two principal kinds of oak—red oak and white oak—and not simply tell him to write the word oak alone in his specifications.

The architect might be thinking of using white oak, and you, the salesman, not knowing for what purpose the lumber is to be

**The Atmos-
phere Grows
Clearer**

**Why Archi-
tects "Side-
step" Lumber
Salesmen**

**The Architect
Wants Details
of Species**

used, may deliver to him in one shipment alone both red and white oak. While the mixed red and white oak may be of a good quality of its kind, yet it may not fit the purpose for which it was intended.

**Supply What
Is Wanted—
or Pass
the Sale**

Why not be honest with yourselves, and with the architects with whom you come in contact? Why hesitate to ask the architect for what particular purpose the lumber in question is to be used, and if your competitor handles white oak and you handle red oak, let the one who furnishes the material wanted make the sale and let him likewise return the compliment to you by letting you make a sale when your particular kind of oak is to be used?

This theory also holds good in other kinds of lumber, especially in the structural timber that enters into the construction of a building. The architect, if he is a man of experience, ability and logical reasoning power, is a coach to his client in reference to the kind of building to be constructed, and the quality of materials entering into the building, as to their strength for carrying the loads that are to be placed in the particular building.

Therefore, if the architect specified a grade of material superior to that in common usage, and carefully writes his specification, laying particular stress upon grade, quality and color, he should have enough confidence in you, as a salesman, to confer with you frequently in reference to the specification that he has placed in the hands of the contractors for their use in bidding on the contemplated structure. Thus you may be fully informed when the contract is let and may follow up the sale of the lumber (knowing what the architect's specifications call for), and not permitting the contractor to buy any material he chooses regardless of quality on a competitive price basis, which will compel you to forget that old virtue, honesty.

The profession of architecture is more and more becoming a specialty, each individual specializing in the kind of buildings his ability and experience enables him to design successfully. Therefore, the salesman, to keep in trim with the progress of the day, must naturally specialize in some particular kind of material. What I mean by specialization on the part of the salesman is that a salesman who sells lumber for an apartment building, for structural purposes, consisting of small joists, small wood studding, and small roof joists, cannot successfully meet the architect who is a specialist in mill-constructed types of building or heavily loaded buildings,

**Following
Up the Sale
to Delivery**

**Architects
Are Becoming
Specialists**

such as are used for warehouses and manufacturing purposes, and endeavor to sell him the same quality of material as he would naturally sell to the architect who simply builds light frame structures, such as farm structures, city residences, etc.

The lumber manufacturers have already been in close contact with the architect at various occasional meetings of a get-together nature, and I assure you that the salesman's ability to specialize will be observed very quickly by his employer, *because it will result in a noticeable and material increase in sales, thereby increasing the profits and the salesman's earning capacity.*

**Salesmen's
Ability to
Specialize
Means In-
creased Sales**

As an illustration, we will consider for a few moments the architect who specializes in heavy warehouse buildings of a mill-constructed type. The first question that I will endeavor to answer is: What is mill construction?

Mill construction is a type of building wherein wood is intended to be used in such manner as to resist fire as much as possible. In other words, there may be a fire in the building, and if the quality of the lumber is right and if the structural members are of the standard sizes known as mill-construction sizes, namely, the joist not being less than 6 inches by 12 inches on the end section, the posts and columns not less than 10 inches by 10 inches, and the thickness of the flooring not less than 3 inches, the enclosing walls of the building being made of brick or of some fireproof material, all stairways, elevator shafts, etc., being enclosed in fireproof walls, with openings leading to the same, having fire doors, also introducing fire windows on all exterior walls, we then have what is commonly called and accepted by specialists in that line as a mill-constructed building. Some of the advantages of mill-constructed buildings are the strength of the floors, a low rating of fire and liability insurance, and a minimized cost of maintenance.

**The Meaning
of "Mill
Construction"**

By the strength of the floors I mean that the quality of the lumber used in the construction of the building must be of a kind that will best withstand the live loadings placed upon the floors. By live loading we mean the loading of the goods, machinery, equipment, etc., placed on the floors by the occupant of the building. Better to illustrate the term live load as used architecturally, we will take a railroad bridge over a river. This bridge spanning from one bank of the river to the other, naturally must carry the weight of the material in the bridge itself, and, in addition to

**"Live" Loads
on Building
Floors**

being strong enough to carry its own weight, it must withstand a moving load or shock caused when the railroad train runs over the bridge. This we call the live load.

**The "Dead"
Load in a
Building**

The weight of the railroad bridge without the locomotive or train running over same, in itself is called the dead load, as that load is always there. Likewise, in a building the columns, girders, joists, floors and walls combine to make what is commonly termed architecturally the dead load.

So that when you are furnishing a bill of lumber that has a greater live load to contend with than used in common practice, it sometimes becomes necessary for the architect to specify the strongest material obtainable, which naturally costs a great deal more than the lumber used in the ordinary type of a mill-constructed building.

**Concrete
or Mill
Construction?**

There is a great question among the architects, among the speculative builders and among the men who furnish the money, as to whether it is safer to build mill-constructed buildings or reinforced concrete buildings. Personally, I am in favor of mill-constructed, strictly. Throughout the United States, in the insurance world, there is but one instance where a properly constructed mill-construction has burned down. There are many instances of a concrete building crumbling down by a small blaze caused, for instance, by a billboard—I use that for illustration. The rate of insurance on mill construction, properly sprinklered, is 10 cents, as against \$1.70, unsprinklered. In the mill-constructed buildings insured in the mutual companies of Boston we not only get protection of the building from fire, we get protection from sprinkler leakage, earthquake and breaks caused by the elements. What I mean by breaks caused by the elements is, we may have a terrific wind, and a crack might open on the side of the building. You are insured against all of that. But, sprinkler leakage, alone! Just as an illustration: I had two buildings, two years ago, and there was somewhat of a miniature cyclone; the roofs were taken off entirely. One of the owners called me up at my residence Sunday night and told me to get a contractor on the job immediately, the next morning, to repair the damage. I said, "What do you want of a contractor? You are carrying mutual insurance. Don't you know you are insured?" That man collected \$62,000 on a \$130,000 loss, on the sprinkler leakage alone. That, gentlemen, to the salesman, is a talking point for mill construction. (Applause).

**Low Rates
of Insurance
on Mill-
Construction
Buildings**

**Breaks
Caused by the
Elements**

We also have to deal with another type of building which we call ordinary construction. This type of construction is used in buildings where there are light loadings, such as apartment buildings and residences where only forty pounds per square foot loading is required, against 100 pounds or more required in mill-constructed buildings. A great majority of the wood buildings erected are of the ordinary construction type such as churches, schoolhouses, residences, farm buildings, etc.

**Construction
Known as
"Ordinary"**

In the ordinary constructed type of building, the roof joists are, generally speaking, 2 by 12, floor joists 2 by 12, the studding 2 by 4 and 2 by 6, with 1 by 2 furring strips on the walls, and in general, all the lumber entering into the building must be of a quality meeting with the requirements of the live floor loading of the particular building in which it is to be used.

Therefore, you realize, gentlemen, that to intelligently furnish construction lumber, you must of necessity know for what purpose it is to be used.

**These Things
the Salesman
Should Know**

There are two classes of lumber that by experience have been classified as the standard adopted lumber for mill-constructed type of buildings, namely, yellow pine and Douglas fir.

**Yellow Pine
and
Douglas Fir**

As you all know, there are variations in botanical species in yellow pine, consequently for the girders, posts and joists the strongest material obtainable should be used, while for the floor boards, roof boards and partitions the strength quality is not so essential and here other grades may be used.

The lumber manufacturers can aid very materially in increasing the demand for mill-constructed types of buildings, and thereby can increase their sales of lumber by such educational campaigns as they are now conducting, thereby educating the layman and the architect with reference to quality in various kinds of lumber. In other words, it is absolutely unreasonable that because you are manufacturing a certain grade of lumber, you should insist upon the architect or builder using your one kind of material throughout the structure, rather than to allow your competitor to introduce his material for the parts to which they are better suited, thereby decreasing the cost of building operation, and creating an incentive for the money-man to invest his money in buildings rather than in stocks and bonds.

When you graduate from this school of instruction that you are now attending, permit me to advise you to visit as many archi-

**Advised
to Visit
Architects**

fects as you possibly can and show them that you have the courage to butt in and do your part toward improving their methods of operation, first thoroughly acquainting yourself with their lumber problems.

**Don't Try
to Win
Through
"Pull"**

Another point that I wish you would take to heart as lumber manufacturers, and salesmen of lumber, is that with the architect you will not proceed very far in winning his confidence if you attempt to reach him through a "pull." You may have your first audience through pull, but I am afraid that you will have a very long wait before the architect gives you a second invitation to visit him. If you know your business, and are thoroughly efficient in your line, you will become so convincing in your argument to the architect regarding the material you are handling that you will forget to criticise your competitor's goods, as you must remember the architect did not call on you to get your version or personal criticism of the other fellow's goods. What he called you for was your true and honest opinion of the quality of your own goods. If you can win his confidence you may rest assured that in his specifications he will place the name of your goods and will not follow it up by the term "or equal." By "or equal" I mean, an invitation to every other lumberman to compete on the same building.

**Lumber
the One
Nameless
Material**

Probably you are not aware of the fact that the one material entering into buildings that has been considered least with regard to its origin is lumber. Take, for instance, heating, plumbing, electric goods, stone, brick, etc. Almost invariably the name of the manufacturer and the catalog number of the manufacturer are specified in detail, but when it comes to lumber, wherein the strength of the building depends, the specification is usually left for the interpretation of the contractor, who, I may say, is not always regarded as the best authority.

**Branding
of Timbers
Should Be
Insisted Upon
by Every
Architect**

Right here I want to add something. Two weeks ago I was called in as a witness on a building that collapsed. The architect who built this building stated to me that he had absolutely long leaf yellow pine in the building. I looked in his specifications. It said, "yellow pine, kiln-dried, or hemlock." The building collapsed. (Applause.)

Agitation was started some time ago in the interest of more scientific grading of Southern pine lumber and its identification by the use of brands, by branding on the material the name of the manufacturer and the location of the mill where it was manufac-

tured. The branding of timbers is a step in the right direction and should be insisted upon by every architect.

And I can assure you gentlemen that the architects who are handling mill-constructed buildings today are introducing long leaf yellow pine in their specifications. (Applause).

One difficulty that the builder and the architect have had to contend with in the past is the promise often made by the lumber salesman that his mill will deliver the necessary material in a specified time, furnishing to the builder the lower portions of the structure and then completing his order by supplying the material for the various floors as the building progresses.

The inability of the lumber manufacturer to keep his promise often does more than words can tell to decrease the volume of mill construction and this sliding decrease in mill construction should be stopped. And you gentlemen are the ones who can stop it by being honest with the architect and yourselves—by telling him that you will furnish roof boards first and the first story and basement columns last, so that he will write his specifications Chinese fashion, namely, backward.

Leaving all jokes aside, I hope you have come to a realization of the situation, and that you will soon modify your method of procedure to meet with the requirements of all concerned in reference to building construction lumber.

Finally, if we cannot all specialize, I believe that the man with reasonable ability, who can apply himself to the situation, will win out in the long run and will have honors conferred upon him as a successful business man in his chosen line.

**Empty Prom-
ises of
Prompt
Delivery**

**The Man
Who Applies
Himself
Will Win**

Best Finishes *for* Yellow Pine *for* Interior Use

By R. H. Brooks

Manager, Arkansas Soft Pine Bureau
Little Rock, Ark.

A very considerable percentage of you gentlemen cover the Northern and Eastern territory where all Southern Pine is commonly referred to by architects and laymen as "Georgia Pine." You

**Public
Misconception
of Southern
Pine
Varieties**

are therefore aware that outside of the dealers and wood-working plants, everyone else who gives any attention to our wood, very often refers to it also as "Pitch Pine" or "Hard Pine." Few laymen understand that there are the species of long and short leaf, loblolly, etc., and that each of these is a specific wood for specific purposes. This fact was very forcibly demonstrated during the exhibits conducted by the Southern Pine Association and Arkansas Soft Pine Bureau at Cleveland and Dayton, Ohio, last winter, when out of the combined attendance of nearly 250,000, several thousand individuals took the opportunity of asking questions of those who were in charge of the exhibits, which questions proved the preceding statement. The outstanding opinion proved to be that nearly everyone regarded all Southern Pine as a hard, resinous wood, suitable for interior use only in cheap buildings where low cost takes precedent over artistic effect. The general idea prevailed that no Southern pine could be finished but that it would appear streaked or show a blotchy color, raised grain, etc., and invariably discolor white enamel because of the action of the rosin on the white lead.

An analysis to determine the cause of this opinion developed that few dealers ever take pains to advise customers of the difference between long and short leaf and of the further fact that the latter is one better suited for interior use. Instead they merely deliver so much Yellow Pine finish to a given job. It may be long or short leaf, or both—the contractor installs it in his own way and the painter comes along and sees nothing but another lot of "Georgia Pine," which he proceeds to shampoo with shellac as the first act on his part in this travesty on merchandising.

Going behind the dealer, however, we find the manufacturer's salesman is also to blame for his own lack of interest or knowledge or both, and that were he more alert to the proper finishing of the woods he sells, that the dealer would as a matter of course absorb a good deal of information from the salesman which the former in turn could pass along to his trade.

Most of you know, in a general way, that short leaf makes a better interior trim than long leaf, because it is less resinous and therefore easier to work and less likely to split, but do you actually know why long leaf always looks streaked and blotchy under stained treatments and why it seldom can be made to look any other way? It is because first of all the painter must shellac the raw wood for the purpose of neutralizing the rosin in an effort

**Shortleaf for
Interior
Trim**

to actually hold it in so that it may not produce a subsequent chemical action on the applied stain. As a result of this, the pores of the sap section between the rosin rings are completely filled with shellac so that the stain itself when applied is thus prevented from properly uniting with the wood fiber, but must become merely super-imposed artificial surface. In addition, the rosin of the summer wood growth actually repels any applied shellac or stain so that anything like even a color absorption is definitely impossible. Yet in spite of this, hundreds of thousands of feet of long leaf casing and base are being put into houses with exactly the results mentioned and the inevitable adverse opinion which the owner or tenant soon comes to form regarding Yellow Pine finish. And every one of us knows exactly what happens to white enamel on long leaf. It turns as yellow as cheese in a few years.

Now short leaf, on the other hand, eliminates the factor of rosin at the outset. If the stock is properly manufactured from the sap section of the log, it will contain a negligible amount of pitch. There is therefore, nothing to require neutralizing with shellac and the stain or white lead is properly applied directly to the raw wood. The color is thus permitted to penetrate the fiber of the wood itself and as the grain is not hard, an even, uniform absorption takes place, resulting in a pleasing, harmonious appearance. Following the application of the color treatment, shellac and varnishes are applied and rubbed down for a dull finish or the varnish may be left in the gloss if desired.

When applying white enamel, the same procedure obtains, that is, the white lead priming is applied directly to the raw wood, which permits of a complete engagement of the fiber and pigment, known technically as chemical affinity. Thus an ideal base for the enamel is established, which, when applied and rubbed to a mirror-like smoothness will successfully rival any finish or similar treatment on any of the more expensive hardwoods heretofore preferred by architects.

**Enamel
Finish for
Yellow Pine**

In this connection, it was interesting to note first the incredulity and subsequent favorable opinion which many architects manifested in the white enamel short leaf panels exhibited at Cleveland. After seeing what really could be done on the wood, which they were surprised to learn was a Yellow Pine different in character from Georgia Pine, they were still further impressed with the fact that it could be purchased at retail in Cleveland ter-

ritory at about \$50 per thousand against \$80 for poplar usually specified.

One of the most striking examples which demonstrates the superiority of short leaf over the more resinous variety is the application of silver gray effect now so popular in the North and East. All other colors recommended for pine are in oil stains, but silver gray is an acid stain and has heretofore been considered satisfactory only upon hardwoods like oak, ash and chestnut, which are of the open grain variety.

When applied to long leaf, the color refuses to enter the rosin section and is only partially absorbed by the sap section. Short leaf, on the other hand, because of its softer character, while not taking this stain as evenly as hardwood, does absorb it in a thoroughgoing manner, leaving just enough of a yellow cast to the grain to render a pleasing contrast.

There are a large number of reliable wood finishing concerns in the country and some of their various specifications may differ slightly, but I wish to read you three that come from one of the largest and best known varnish makers in the country, and which were particularly written for short leaf pine.

Dark Mahogany—Sand thoroughly, then one coat of dark mahogany oil stain, one coat shellac, two coats varnish rubbed to a dull finish.

Southern Pine in the Natural—One coat shellac and two coats varnish rubbed to a dull finish. Never use so-called hard oil treatment for the natural effect. It invariably turns the wood dark and gives a soiled looking appearance in a comparatively short time.

White Enamel—Sand perfectly smooth and apply one coat of white lead. Sand smooth again, then two coats of enamel undercoating. Sand smooth again and apply two coats of finishing enamel. This will produce a glazed finish. If egg shell or dull effect is desired, the last coat should be rubbed, when hard, with pulverized pumice stone and water.

To apply the stain, apply evenly with a varnish brush. Allow twenty-four hours to dry. Turpentine added to oil stains gives a lighter shade. Wiping off an oil stain with a soft cloth about five minutes after it is applied also produces a lighter shade, and this is always done with antique, weathered oak and golden oak stains, also for a lighter shade of forest green.

Before applying the silver gray acid stain, the wood should first be sponged with cold water and sand papered when dry. Also sand paper again when the stain is dry, which is not necessary when using an oil stain. Add water to make silver gray acid stain lighter.

To rub varnish to a dull finish use a piece of rubbing felt about four inches square, dipped alternately in finely pulverized pumice stone and crude oil or pulverized pumice stone and water. For a very dull finish use hair cloth or curled hair, crude oil and a coarse grade of pumice stone. When oil is used, after the gloss is thoroughly removed, the work should be wiped off with clean, soft cloths or cotton waste. When water is used, the surface should be washed with water and dried with a chamois skin, then oiled off with linseed or rubbing oil used sparingly on a soft cloth or cotton waste. The water rub method is the only one suitable for rubbing white enamel.

**Methods of
Rubbing
Finishes**

For a polished finish carry out the water rub method to the point of oiling off, then rub with rotten stone and oil or rotten stone and water. Where rotten stone and water is used, finally apply a little rotten stone to the palm of the hand, bringing up the high polish by the friction of the hand. After the surface has been polished, oil off in the same manner as described above for the water rub finish.

Of prime importance is the matter of thorough sanding. Where at all possible, all flat surfaced finish, including round edge case and base should be machine or drum sanded. Hand scraping on the bench is to be discouraged at all times, as the uneven pressure of the scraper scuffs the sap section, leaving the grain slightly raised. The machine, on the other hand, revolving at high speed, takes the surface down uniformly, while at the same time the heat generated by the drum likewise gives a polished surface to the wood itself. When this work is completed at the local planing mill, or wherever it may be done, the stock should be bundled and wrapped in paper before delivery to the job in order to prevent soil, dust and finger marks from reaching it. In other words, it should be handled carefully with proper regard for its worth and use, and not thrown down on the wagon bottom or floor to be trod upon and kicked about until ready to install, as is so often the case. After such careful handling, it should likewise be cleanly installed, after which the painter may proceed at once with his work, having

**Care of Trim
Before Use**

the material in the best and proper condition for a satisfactory workmanlike job of decorating.

Does it not therefore seem to you, gentlemen, that there are a great many things which you can now tell your dealer friends about finishing that many of them do not know, and which would be of great value to them as merchants as well as to you as salesmen? Isn't it also true that by taking this information to your trade and at the same time letting your customers know that you sell a wood best adapted to finishing, that the dealer will become so interested in what the stock will do for his customers that your price will be a secondary consideration?

Advantages of Technical Training *in the* Lumber Business

By S. E. Robinson
Western Lumber Company
Columbus, Ohio

I have been given a few minutes by Mr. Kendall to tell of the technical training I have received in the lumber business and to let you men judge whether it is worth the time and money expended.

As a basis of this talk, I take it that every man here and in particular the men who control the mills, who established the chair of lumbering at Yale, and who are responsible for the lumber business in this country, are interested in raising the standard of that industry. I do not mean this in a theoretical way, but in a practical way; that is, to extend the scope of the business, to get more sales and therefore more profits, and get those sales in a cleaner, better way.

I did not take this course with the aim of fitting myself to become a lumber salesman. The course was one designed to turn out a professional forester, a man to handle timber lands. After I had taken it circumstances willed that I become identified with the selling end of the lumber game and my purpose today is to

relate how the training I received filled in with the work I am now doing.

This course in forestry cost \$2,000 and two years' time; it included three months in the woods at Milford, Pa., fifteen months at New Haven in class, laboratory and field work, followed by three months at the Crossett Lumber Company's plant.

**What a
Course in
Forestry Is**

The three focusing points of the course were land, trees and wood; the primary aim was to equip a man so that he could enter the United States Forest service as a forest assistant, or technical aid. The work of the United States Forest Service is to administer the United States forests of approximately 100,000,000 acres, divided into units of about 1,000,000 acres each. The control and development of 1,000,000 acres of land involves a tremendous range of work which can be roughly divided as follows:

1st. Administrative—Having to do with management of the area and the people on it. Just as a big rancher or corporation head must direct his business.

2d. Technical—Having to do with the investigative and experimental work which will enable the Forest Service to secure the greatest possible returns without impairing the capital. In other words, the training was designed to give a man a broad survey of the field of activities beginning with propaganda or high class of advertising, the acquisition of land, planting of trees, cultivation of the forest to secure certain desired results; the solution of business and other questions involved with the handling of land and people; *the harvesting, utilization, extension of markets and the consumption of timber grown.*

By virtue of this broad training, a man should be able to take up any one line of work, quickly grasp the conditions he must meet, develop his judgment and get results with the highest efficiency.

To get down to specific cases, what courses of instruction have I found to be of direct help in selling lumber?

First, those having to do with wood. We were taught all the essential facts as to the structure, texture, strength, toughness, durability, weight and pitch content possessed by each wood of any commercial importance growing in the United States. With that the uses made of wood in this country, the demands of different classes of consumers of wood, and, as a natural consequence, the purposes for which certain woods were or were not fitted.

**Instruction
Helps Sell
Lumber**

Secondly, those having to do with trees. These courses involve the study of every tree species of commercial importance in the United States; as to where it grows; conditions under which it has grown best for the production of lumber; and the kind of lumber it produces, as for instance, clear or knotty, strong or weak, durable or perishable, straight or twisted grain, etc.

Third, those having to do with the maladies to which trees and wood are subject. For instance, the various kinds of rots; how they spread; the conditions under which rots thrive and how they may be prevented as by the use of certain woods more immune to these attacks, by proper paints or chemical treatment. In brief, the preservation of wood from fire, fungi and insects.

Fourth, the very complete course in lumbering. This course was in two parts, the first being a series of lectures dealing with every phase of the lumber industry of every section of the United States, including the logging, manufacturing and selling methods, the equipment used, and carefully compiled cost for a great number of representative operations.

The second part of the course in lumbering was a detailed study of the Crossett Lumber Co.'s operation at Crossett, Ark. Here, under a corps of experts we were given an *opportunity* to become fairly familiar with every step of logging, mill and office work. All departments and records of the company were open to our inspection and every possible advantage offered us. Among other things, I spent several days grading under the eye of a company grader. My work in the Government Forest Service covered two summers and a winter in the Western Pine and Douglas Fir regions, including two weeks in the plant of the West Oregon Lumber Company at Portland.

The very natural question that has probably arisen in your minds is, "But isn't this course too general to give a lumber salesman any particular edge over his competitor?" I want to answer that question by relating a few little incidents that have occurred to me while I have been on the road for the Western Lumber Company.

Up in Ohio in one town in my territory, there is a dealer who does a big business in a long leaf dimension. I had never been able to get a look-in on his business; I could offer him just as good lumber as he was getting and at just as attractive prices, but he could see no reason for changing. One day I called and found him in his yard trying to sell a customer some sap stained

dimension. The customer would have nothing to do with the stock, saying it was a form of rot and that he would not touch it. It looked as if the dealer was going to lose a sale. Well, I butted into the conversation; took a piece of the stock and explained that the sap stain was caused by a fungus or mould which affected neither the strength nor durability of the wood, and cited some Government tests to prove my point. This information I had gotten during my two years' forestry training. The customer was convinced and bought the lumber, while the dealer to whom I had never been able to sell a foot of lumber hustled me into his office and gave me orders for two good cars. At another small town in Ohio, I went in to see a dealer in an effort to dispose of two cars of red heart boards that we had in transit and on which there was accruing demurrage. I found the dealer to be in the market for boards but strongly prejudiced against red heart. I explained that while the defect was caused by rot, yet as soon as the tree was cut and the wood placed in a protected place, the rotting process stopped and that the boards were not harmed at all for certain purposes if the disease had not progressed too far. I had to go into a good deal of detail explaining this and eventually he became interested, so that I was able to prove to him that his prejudice was unfounded in our case *for we knew our business well enough to avoid shipping bad red heart*. The demurrage stopped on those two cars that day.

These experiences could be continued, but they cover the ground. After all, the greatest value I have found in my technical training lies in using it constantly in an indirect manner. The man with superior personality or with a superior organization or product back of him, of course, has the edge on a man lacking some of these. But, in any case the man who has an intimate knowledge of what he is selling and why a certain man should buy it, has a basis for establishing the dealer's confidence in himself, his firm and his product. It enables him to lay down cold facts before the dealer, appeal for business in a logical, forceful way, to stamp his own personality on the minds and methods of his customers, and to make himself a fixture in their business. For the last two months I have averaged three cars a week from my territory from dealers who have written or phoned the office giving in their order without recent solicitation. These dealers are all very particular as to quality, yet I have made them know

**Technical
Training in
Constant Use**

that I appreciate exactly their requirements and they are confident that the order will be filled on that basis. In other words, the training has given me more orders, and from a higher class of trade, than I otherwise could have gotten. I will admit that the training was expensive, that it took valuable time and that it might not be practicable for every salesman to take it; but in view of the fact that the first year I was on the road among four salesmen, my gross profit per car was the highest, that I had not a single complaint, claim or rejection, and that every account was a highly desirable one, it seems apparent that my training had a very real value.

Efficiency *and the* Lumber Salesman

By R. J. Tolson

Auditor, William Cameron & Company, Inc.
Waco, Texas

You have all heard the oft' repeated saying that "Poets are born, not made." I am somewhat of a believer in that theory, but I wish to qualify the statement by saying that even though a man be "born" a poet he will never be able to show his talent or genius until he has cultivated the finer qualities of his mind and soul by education, study and thought.

Natural
Talents
Must Be
Cultivated.

You have also, no doubt, heard the remark that "Salesmen are born, not made." To some extent I believe that statement is also true. There are certain, almost undefinable, inherent qualities of mind which we know as "personality" that a salesman must be born with. If he lacks these inherent qualities he will be seriously handicapped in ever reaching the hundred per cent mark of efficiency as a traveling salesman. But on the other hand, even though he be born with this essential quality it will never be of any value to him unless it is cultivated and developed by experience, education, work, thought and study.

This enviable and most essential quality for a traveling salesman can be forcibly illustrated by comparing it with musical talent or genius, for I believe that musicians, like poets and traveling

salesmen, are also "born, not made," unless a person is born with some inherent talent, ear or love for music all the training and practice of a lifetime will not make a musician out of him. He might eventually learn the theory and technique of music, but he would never develop that power of inspiration and expression to touch the hearts and souls of men like the musician who is "born" can do. But if he possesses an inherited love or ear for music his talent may be quickly developed by practice, cultivation and education.

You have all seen the "unmusical salesman," the man without the talent, whose voice was mechanical and without expression, who tired you to listen to, like the electric piano player; you have heard his arguments, his presentation or rendition of his subject, technical, listless, lacking in inspiration, void of enthusiasm, and you have seen him fail—fail to reach or hold the attention of his customer, fail to obtain the business! This salesman was not well born.

**Some
Salesmen
Not "Well
Born."**

You have also seen the "musical salesman," the man with the "voice with a smile," magnetic in his personality, whose entrance into the place of business of his customer is greeted with the applause of welcome. You have seen his "approach" to the center; easy, graceful, confident. You have heard him render or present his subject, gently, softly at first, then with fine expression, modulated to the theme, his voice commanding rapt attention as he reaches the strong, full-voiced, well-rounded climax of inspiration, which brought forth showers of applause in orders from his admiring patrons. You have seen also, the hearty "encore," the "call back" which his patrons bestowed upon him; and you have seen them wait for him, they look forward to his coming because talent is always sought after and will command a "full house," be it with musicians or be it with traveling salesmen. A salesman like this is well born—or to use the common expression "He's a natural born traveling salesman." Heretofore it has been an entirely too easy a matter to be born a traveling salesman. To be well born requires time. All things with life, both animal and vegetable, require a proper time for the germ or seed to evolve into the living organism, and it is very necessary that the proper or most favorable conditions shall exist for this seed or germ to develop to a perfect specimen of its species, otherwise it will die before being born, or being born, will be a weakling.

All seeds of the vegetable kingdom require from a few days to a year's time to burst forth into life. The same is true of the animal kingdom, and I have heard it said that it requires almost a year for an ordinary man to be born.

Man is the slowest being in the world to develop into full maturity. You can tell something about your dog within a few months after it is born. You may accurately judge the point of merit of your horse in a couple of years, but it requires at least twenty-five years or more to determine with any degree of accuracy what kind of a man a man is, and you've got to be an expert in judging human character to do that. But, regardless of these facts—I have actually known traveling salesmen to be "born over night." I have known men to lose their jobs on a farm, or railroad, or some other place one day, and for the idea that they would like a traveling job to take root in their fertile brains the next day, and on the third day they would burst forth as a full fledged "Knight of the Grip," equipped with hand satchel, order book, cigars, brass and everything except experience and knowledge of the business. These fellows who are "born one night" seldom succeed in anything except in causing grief to the firm they represent; but they are fast passing away, and the time has now come when prudent business concerns will require "natural born salesmen" to prove their "birthrights" and show up their "pedigrees."

The genealogy of a well born traveling salesman should disclose a long list of noble ancestors. He should be born of Labor and Health, and should be lineally descended from Intelligence, Knowledge, Honesty, Courtesy, Neatness, Confidence, Loyalty, Enthusiasm, Self-Control, Economy, Industry, Co-Operation, Tact, Judgment and many other time-honored sires, and should possess by inheritance all the virtues of his forefathers; therefore, if you can conscientiously claim relationship with each of these, you are "born to the purple," and you may be justly proud of the honor of being a traveling lumber salesman. If you cannot claim kin with these honored sires you had best be "born again" into some other vocation, so you can start life anew in some more fruitful field.

So much for being well born, and I assume that all of you *are* well born. Such being the case, your schooling and training should next be considered. I am informed that you are assembled for that purpose.

When a child enters school he is examined to determine his mental efficiency or deficiency and is graded according to the degree of intelligence and knowledge he possesses, and he is given a card which discloses his percentage of efficiency in his various studies. The main difference between this "school of salesmanship" and the ordinary school is that we have only two subjects for study, viz: "Yellow Pine Lumber" and "Salesmanship." But to master these two great subjects we will have to acquire a vast amount of collateral and specific knowledge, as well as many of the personal and business virtues which contribute to success. To be a first class lumber salesman you should also be a first class lumberman.

Good Salesmen Should Be Good Lumbermen

To be a first class lumberman is to be a broad guaged man who is closely identified with the progress and development of his community or state. The lumber business, in fact, can almost be said to be the pulse of commercial industry, as it indicates the ebb and flow of prosperity and depression quicker than any other mercantile or manufacturing pursuit.

A thoroughly first class lumberman knows the lumber business from A to Z. He knows the history of his product in its natural state, the method of manufacture, the various classifications, grades, brands, etc., and should know the various purposes for which certain kinds or grades are best suited. He should also know the commercial game in all its relations to competition, finance, credits, investment, supply and demand and the general conditions which effect the prosperity of the country and business and he should have judgment, intelligence and industry in order to know how to play the game to win.

A "First-Class Lumberman" Defined

But it has not always been thus; as the centenarian would say, "Times has changed." The good old days of our forefathers when a retail lumberman could sit in a chair at the front of his office and get all the business he wanted, or the business of a sawmill was limited only by the capacity or its output have passed into sweet memories. In those days a "board was a board." Nos. 3 and 4 went to the slab pit and No. 2 was in disfavor. The present day standard specifications would then have been looked upon as the height of ridiculousness, and to have spoken to anyone about "density rules," "structural strength" and other modern classifications would have sounded like Greek to the old time lumberman.

Likewise, the traveling "lumber drummer" of those palmy days was a genial, easy going gentleman whose chief claim to efficiency was his ability to write the orders down, tell funny stories and dispense cigars to his admiring customers. He was an "order taker," nothing more was necessary. "Salesmen," according to our present standards were then unknown.

**The "Order
Taker" Has
Become a
Salesman**

To be a thoroughly first class lumber salesman of the present day requires, first, that he should be a lumberman, and by that I mean he should possess practically all the knowledge of the lumber manufacturer and the lumber dealer; and secondly, he should possess certain fine qualities of intelligence and personality which are not strictly essential to the manufacture but which are used by the retailer under modified or different conditions. These qualities of intelligence and personality I will discuss later, in one division of the twenty-three essentials of a thoroughly efficient lumber salesman.

If all that I have this far said be true, you can readily see that there has been a marked change, a tremendous evolution in the lumber business during the past few years, and with this change the lumber peddler or drummer has evolved from an "order taker" to a salesman; and you will also note that it involves much more "labor" and knowledge of lumber eugenics to be "born" a lumber salesman in these days of scientific advancement than it did when a salesman could be "conceived" with an idea and be "born" in one night.

The causes which have led to this tremendous evolution, or, I should perhaps say, revolution in the lumber business, are too complex to discuss within the limit of this address, suffice to say whatever the causes have been they were drastic and far-reaching and resulted in very serious financial losses to all lumber concerns which were unprepared. The result is, however, we are now facing entirely new conditions, new problems confront us both in the manufacture and sale of our product; the margins of profit have been reduced, the costs of manufacture increased, vigorous and aggressive competition has developed not only among lumbermen, but between lumbermen and the producers of many substitute lines of material, all of which has necessitated a complete change from the old time tactics of doing business and the adoption of new, scientific and modern methods of meeting these extraordinary conditions with which we are confronted.

These changes necessitated the most rigid analysis of the lumber industry which brought out the fact that yellow pine lumbermen were confronted with the heretofore almost unbelievable fact that competitive lines of building materials were making large inroads into the domain of yellow pine which threatened the very life of our business. These facts thoroughly impregnated the minds of the lumbermen of the country, and then it was that *efficiency was born into the lumber industry.*

**Competition
of Substitutes
Forced a
Change.**

I am sure that you have heard of efficiency, that giant child, that prodigy of the modern business world. Some of you, no doubt, have seen it; others among you have perhaps played with it; some of you, I expect, have even nursed it, and some few of you, no doubt, claim it as your own.

Efficiency in the lumber business is still in its infancy, but it is growing stronger day by day, and henceforth, to all progressive lumbermen, efficiency be the mascot of success.

**The Infant
"Efficiency"
Appears.**

With the advent of efficiency "the old order changeth" with both methods and men. Old ideas have given place to new, and business is conducted on a higher plane of intelligence than ever before. This fact has created a demand for "brains and ideas" which in the lumber business was considered almost unnecessary until recent years. The market price of intelligence has thus been increasing steadily. There is an ever increasing demand for "specialized knowledge," and specialized knowledge or intelligence is nothing more or less than an element of efficiency. This is not only true with every line of industry, but it is especially true with the lumber business, and realizing the fact, we have assembled here on the occasion to determine the best methods of meeting these changed conditions and to measure the amount and quality of our efficiency as lumber salesmen. This brings us to the point.

WHAT PER CENT ARE YOU EFFICIENT AS LUMBER SALESMEN?

Right here let me say that perfect efficiency does not require you to possess all the knowledge of the world, but to be 100 per cent efficient as a lumber salesman *does* require you to know *everything* there is to be known pertaining to the lumber industry, and to also possess a number of personal qualifications which are essential to enable you to obtain the best result from the use of your fund of knowledge. Efficiency, therefore, is a complex quality of mind. It is a blending of knowledge of some specific voca-

**The Meaning
of Perfect
Efficiency.**

tion or line of business with wisdom or trained intelligence. A man may have all the knowledge of the world and not know how to use it unless he also has wisdom, as, for instance, a man may have all the wealth in the world and unless he has wisdom or intelligence he would not know how to use it or get the best result therefrom. Wisdom or intelligence, therefore, is the executive function or element of efficiency, which directs or teaches you how to best use your fund of knowledge. You must therefore have a large fund of knowledge of the business which you follow, as well as wisdom or intelligence, in order to be perfectly efficient. You must also have health, and you must have energy or industry. There are really four cardinal sub-divisions of the elements of efficiency, which can be briefly enumerated as "Health," "Knowledge," "Wisdom" and "Energy." Each of these elements of efficiency may be further sub-divided by various essentials under these respective sub-divisions except health. Health is the prime essential, a class in itself, necessary to all.

Furthermore, perfect efficiency does not mean that you should be a graduate of Yale or Harvard. It does not mean that you should have the technical knowledge of an Edison or a Wright, neither does it mean that you should be a Napoleon or Lincoln or Shakespeare. These men were all no doubt very efficient in their respective vocations, but none of them were absolutely 100 per cent efficient in everything. Had Napoleon been 100 per cent efficient as a general or emperor he would have never been defeated at Waterloo, and had Edison or Wright been 100 per cent efficient in their respective vocations they would not have left anything undiscovered in the electrical or aerial sciences.

If only one man out of each profession or vocation in the world was 100 per cent efficient and would give the world the benefit of his discoveries, his work and accomplishments, the millennium would then be here, for all good would have been discovered and the world could progress no longer.

Therefore, it is safe to say no man has ever yet been 100 per cent efficient, and I doubt very much if any man will ever be until the end of time. And for us poor devils who are toiling, striving onward, upward to be efficient, there may be some comfort in the thought if we never reach the 100 per cent mark, we can feel sure that no one else has ever reached that goal before us.

With the foregoing thoughts for your consideration, let us now proceed to the task of determining the various essential quali-

**No Man 100
Per Cent
Efficient in
All Things.**

fications for a 100 per cent efficient lumber salesman, and after we have enumerated these essentials, let us then grade ourselves according to the measure of our merit and see whether or not we are worthy of the name.

In my humble judgment there are at least twenty-three essential qualifications which go to make up a first class "A Grade" lumber salesman. To be 100 per cent perfect you must be absolutely free from all defects known in the "standard specification" for the grading of a perfect lumber salesman. If you have got any rotten knots, blue sap stains, pitch streaks, coarse grain, soft pitch, wane or rotten red heart in your character you will never be put in the 100 per cent "A Grade." Furthermore, you must be thoroughly kiln-dried with experience to make a good "finish" article.

According to my judgment the standard specification for an efficient lumber salesman are printed on the larger placard or hanger which you see hanging here on the stage. You will also find these specifications, or essentials as I will call them, printed in the small grading cards which have been distributed among you, and while I enumerate them, it might be interesting to you to follow the various subjects and grade yourself on the card by taking credit for your estimated percentage of efficiency in each essential, as I read them. Of course, I want it understood beforehand that I am not going to be the "official grader." You must grade yourselves, as I don't want to be held responsible for "Kicks" or "Claims" for "Undergrade," "Mismatched," "Short Length," "Blue Sap," "Rotten" or "Faulty Manufacture," but there is one rule I must ask that you follow in grading yourself, and that rule is the "Rule of Honesty," for you cannot hope or expect to know your "defects" as a lumber salesman unless you are strictly honest with yourself.

I will now take up the essentials in the order in which they are printed on the chart. After making a brief analysis of each essential you may then record the percentage of efficiency you are entitled to opposite each in the percentage column, after which add your various percentage and divide the total by 23. The answer will be your percentage of efficiency as a lumber salesman.

1. Health.

The first on the list is health. If your health is perfect you are entitled to 100 per cent in the percentage column opposite

**The
Importance
of Good
Health**

"Health." I do not know of any vocation in which health is so vitally essential as that of the traveling salesman. Unless you are feeling good you are working under a most serious handicap. Good health is essential to a cheerful disposition, it is a stimulus to enthusiasm, it is the fountain source of energy and industry, and you all know how important these things are to a traveling salesman. Beside this, no man can have the best use of his mental faculties unless he has good health. Unless you have good health you are sure to have a "grouch," business will be "on the bum," and you will likely blame your customers, your goods or your house for losing the business, instead of blaming yourself.

Is your health 100 per cent perfect?

2. Energy or Industry.

Energy or industry is the antithesis of laziness, it is the motive power which keeps us moving.

**The Motive
Power That
Moves Us**

It is the faculty which makes us forget time and distance and fatigue and sleep. It is the power which runs the machinery of our brain and converts our ideas or raw material into the finished products, or results. Industry is ambitious, is never satisfied, it works overtime and is the tutor of Genius. What is your percentage in energy and industry?

3. Knowledge of Yellow Pine as a Wood.

**What Do
You Know
of the Wood,
Yellow Pine?**

Do you know the various kinds of yellow pine, and where they grow, and the difference in quality, density, strength, weight and specific values of each? Do you know the difference between long and short leaf, loblolly, old field, coarse and smooth grain and the various other distinctions in the wood and the causes of such differences? Do you know the merits, usages and limitations of Yellow Pine as a wood, and know wherein that certain classes of the woods are suitable for certain purposes and for other purposes they are totally unfit? Do you know the probable visible world's supply of Yellow Pine, and where it is located? What percentage of knowledge do you possess on these questions?

4. Knowledge of Other Competitive Woods.

**How About
Competitive
Woods?**

What do you know about other woods which come actively in competition with Yellow Pine? Do you know the merits and limitations of these other woods as compared with Yellow Pine? Do you know what these other woods are, where they grow, what they are best suited for, and what they are worth on the market

in your territory? In other words, what do you know about cypress, fir, spruce, red cedar and white pine? And do you know anything about those hardwoods which are coming into competition with Yellow Pine, such as birch, maple, poplar, oak and gum? What per cent are you efficient in your knowledge of the merit and limitations of these woods?

5. *Knowledge of Other Building Materials.*

Do you know what are the principal kinds of material which are in active competition with Yellow Pine for building purposes? And do you know the merits and limitations of these materials as compared with Yellow Pine? Do you know anything about the structural strength of iron and steel and wherein this product is better or inferior to Yellow Pine? And do you know the difference in costs when used for certain purposes? Do you know anything about cement, and brick, and stone, and tile, and plaster, and wall coverings, prepared or patent roofings, and other materials which are used as substitutes or as curtailments of the use of Yellow Pine? Do you know the price of these articles in your territory, their value and limitations as competitive products? What is the percentage of your knowledge on this subject?

Do You Know the Relative Value and Cost of Substitutes?

6. *Knowledge of the Methods and Cost of Manufacture.*

Do you know how lumber is manufactured? Do you know the evolution of the log from the time it leaves the forest until it reaches the finished product ready for shipment? Do you know how many separate operations are required to convert a log into boards or dimension or finish? Have you any idea of the cost of each separate operation, and why it costs more to manufacture one kind or dimension of lumber than another, and how the cost is distributed to the several grades? Do you know why one length is worth more or less than another length of the same dimension? Do you know anything about the percentage of grades which an average bunch of logs will develop in manufacture, and the basis or rule by which the cost of one kind of Yellow Pine lumber is placed at a higher price than another? Do you know anything about special cuttings in the manufacture of lumber, why it costs more to fill an order for special cuttings and how to figure that additional cost? Do you know the several component parts of the cost of Yellow Pine lumber, the stumpage, the logging, the hauling, the sawmill, the trucking, stacking, drying, planer and loading, as well as the overhead or fixed cost which

What Do You Know of the Manufacture of Lumber?

are all a part of its value? If you know all these things you are entitled to 100 per cent on manufacture, if not you will grade yourself according to your knowledge.

7. *Knowledge of Grading Rules.*

Have you ever sold a bill of lumber and sometime later, when you called on your customer, he would tell you that was the "bummest lot of stuff he ever saw," and that it was not near up to grade, and that he wanted you to step out and see it and pass on the grades? I am sure you have. Were you then prepared to show him that he was absolutely wrong, and to point out the fact that it was in reality above grade instead of under grade? Could you quote the grading rules to him from memory and show him by the inspection of each stick or board that it was up to grade and that your firm or mill did not rob him? In fact, do you actually know all about knots, their size, form and quality and how many different kinds there are? Do you know all about pitch, and sap, and wane, and stains, and checks, splits, grains, etc., and how many of each of these defects are allowable in each grade and kind of Yellow Pine lumber according to the length of the piece? If you can tell each of these things you are entitled to 100 per cent, and should get a special prize for efficiency besides. In grading yourself on the grading rule you must grade yourself by the rules and not by appearances of the lumber. You can probably make a correct guess as to the proper grade of a piece of lumber by appearances, but we cannot always tell the grade of efficiency of a lumberman by appearances. What per cent are you efficient in the knowledge of grades?

8. *Market Conditions, Prices, Etc.*

The lumber salesman should not only know the prices of every item on his list of standard cutting at the mills ready for shipment, but he should be able to quote promptly, without referring to his price guide and figuring several minutes, the prices of any kind of Yellow Pine lumber that his mill or firm will manufacture. As before stated, he should be as familiar with the price or cost of special cuttings as he is with ordinary stock stuff. He should also keep in close touch with the capacity of his mills for certain kinds of cuttings and grades and shipments, and should know at all times the quantities of each kind of stock on hand, by a close study of the stock sheets, in order that he may be able to co-operate with the sales manager or mill in moving surplus stock or in

How Are
You in
Arguments
About
Grades?

Efficiency
in Price
Quoting

pushing those items which are most profitable as well as to avoid the mistake of overselling or promising shipment on something which cannot be gotten out in a reasonable time. The traveling salesman should also be a student of the lumber market in its broadest sense. He should be thoroughly familiar with every condition which has affected or which might affect the market, and he should be prepared to answer any question correctly and intelligently as to the cause of any market fluctuation in the price of lumber. He should be able to perceive the economic relationship between prosperity and the lumber business, and to be able to discern the cause of the prosperity and its stability. He should also be able to forecast the probable eras of business depression so that he may protect his firm from the evils of overselling to financially weak concerns. Are you efficient in these things, if so, what per cent?

9. *Traffic, Rate and Transportation.*

The lumber salesman should be somewhat of a traffic man. He should be perfectly familiar with the cost of delivery of any kind of lumber to any given point in his territory. To do this he must know the freight rate and the weight of each class of Yellow Pine lumber. He should know the approximate number of feet required to make up a minimum or maximum car of any one kind of lumber, and the same if in mixed cars. He should also be familiar with the best routing from his mill to the customer and be prepared to answer any reasonable question his customer might ask, relative to weight, rate, transportation, routing, etc., etc. In these things what per cent are you efficient?

10. *Retail Merchandising.*

I believe, as a rule, lumber salesmen fail to appreciate the immense value of a knowledge of the retail lumber business, but in my judgment such knowledge is inestimable. The more you can find out, learn or know about the retail end of the lumber game the better you will be prepared to play your cards to win.

If you sell direct to the retail dealer and can show or demonstrate to him that you are familiar with the demands or requirements of the trade, that you know about what would constitute a fair stock or assortment of the various kinds and grades of material, the purposes for which they are used and the general methods of conducting a retail lumber yard, the closer will be your relationship with him. Under these circumstances your customer

**The Salesman
as a Traffic
Expert**

**How Do
You Rank
as a
Retailer?**

will have more respect for your business knowledge, and then it will be easier to obtain his confidence.

If you are familiar with the demands of the local trade and know the usages for which the several kinds of lumber are intended, you can frequently be of considerable assistance to a retail lumberman in making up his order, and once you are called upon by him to assist him in that, or in any capacity, you have cemented his friendship and have created what we call non-competitive business.

If you show a knowledge and familiarity with the retail end of the business your customer (provided he is the retail dealer) will frequently call on you to assist him in landing a job in his town or community, which means more business for you as well as his yard.

In addition to having a general knowledge of the retail lumber business in your territory you should have a specific knowledge of how each of your customers conducts his particular, or individual, business. Of course you must use tact and use your eyes and ears to get this knowledge and information; if you are a good business man as well as a good salesman you might sometimes prefer not to sell this particular customer, as loose methods of conducting a retail lumber business are examples of inefficiency, and inefficiency is the forerunner of loss and failure.

Therefore, what do you know about retail lumber merchandising? You may grade yourself accordingly.

II. Courtesy.

Courtesy is perhaps the finest accomplishment of a human being. It is the badge of refinement; it signifies consideration for others; it bespeaks unselfishness; it creates good will; it makes friends; it makes business; it makes money; it costs nothing, but produces more profit than all the side lines in the world. It is a tremendous factor for success in every business, and it is one of the chief essentials of a lumber salesman.

Are you courteous? If so, what per cent?

12. Truthfulness and Honesty.

The day has passed when a man, firm or corporation could be dishonest with his trade or customers and still succeed. That "honesty is the best policy" in business was never more truthful than today.

One of the biggest assets of success for any traveling salesman to possess is the confidence of his customers, and there is no surer or better way to obtain the confidence than by being absolutely honest and truthful in your dealings with your customer. By being honest with him is to never misrepresent or tell him an untruth, even though you miss the opportunity of selling a bill, and to never take advantage of his ignorance or inexperience. If he asks you if you can ship a car of a certain kind of material at once, and you know it is impossible, the thing to do is to tell him so. In other words, a traveling salesman is jeopardizing his business by making any kind of misrepresentation or telling any kind of untruth to get business. As sure as you do your customer will find it out, and you have lost his confidence and his trade.

**Are You
100 Per Cent
Honest?**

In addition to being honest with your customers or trade, are you honest with your firm? Are you honest in giving your firm the full time for which you are paid? Are you honest in your expense accounts? Are you honest or truthful in your statements? If you are not honest in all these things, it will not be long before there will be a lumber salesman out of a job.

Are you honest and truthful to your trade and your firm? If so, how honest? You may record your per cent according to the dictates of your conscience.

13. *Self-Control.*

"Self-control" is the brake which our Creator has attached to our mental machinery and is intended for us to apply or use when we find ourselves in danger of slipping down the hill or over the precipice into the chasms of error. Self-control is a product of civilization, savages have none. Self-control is a fire escape which keeps us from being consumed by our passions. It is the safety valve which keeps our feelings from bursting into anger or fury. Self-control is the stern guardian of our desires and warns us against our follies, and is the vigilant watchman who warns us always of the approaching danger with the oft repeated words—Think! Stop! Look! Listen!

**Self-Control
a Factor of
Efficiency**

Self-control is a power which not only enables us to control ourselves, but others; without it we would be weak; with self-control we are strong, and being strong we will be sure to win.

Self-control is, therefore, an important factor in business, an essential element of personal efficiency and a promoter of power and success.

What per cent will you grade in self-control?

14. *Confidence in Self and Your Goods.*

Be Confident, But Not Vain

"Faint heart never won fair lady," is a saying that can be applied to business. If you have a faint heart, a timid hesitation, a lack of confidence in yourself or the product which you sell, you will never woo or win the favors of the fair goddess called Success. In order to win, you must absolutely conquer fear.

To be a successful lumber salesman you must enthusiastically believe in yourself and in the lumber you sell. By believing in yourself, I do not mean that you should be egotistical or vain. Egotism and vanity are the virtues of fools. That "confidence in self" which the true traveling salesman should have is that confidence which is born of ability.

Lack of confidence is an acknowledgement of weakness; weakness has no place in the make-up of efficiency. You must believe in yourself and your goods, and what you believe will be! Have you confidence in yourself, and in the product you sell? If so, what per cent?

15. *Loyalty.*

Are You Loyal to Your Firm?

Loyalty is a superb blending of appreciation and faith and patriotism, is one of the noblest attributes of man. Loyalty is the tie which binds friend to friend, man to man. It is that quality which soothes the pain of sacrifice, which make it easy to forgive, which closes our vision to the faults of those who have befriended us.

Loyalty to your firm is like patriotism to your country—without it you are a traitor. It is that quality which arouses you to arms in defense of your country, and likewise would cause you to resent an insinuation against the character of your firm as an insinuation against yourself. Loyalty is that characteristic which makes you a part of your firm, therefore, it is a splendid essential in business efficiency. Are you loyal? If so, what per cent?

16. *Personal Neatness.*

A man's personal appearance in any line of business may often be the direct cause of his success or failure at the critical

moment. The world judges very largely by appearances, and first appearances are most lasting. Therefore traveling salesmen should look well to their personal appearance by being neat in body and in dress.

**The Value
of Personal
Neatness.**

A well kept, systematic, clean, orderly and attractive store or establishment of any kind suggests thrift, and on the same line of suggestion a well groomed, well dressed man creates the idea of thrift, prosperity and success, and "Nothing succeeds like success."

On the other hand a man who is slovenly in his general appearance, with unshaven face, unshined shoes, soiled collar and cuffs, suggests laziness, and laziness creates contempt, or disrespect.

Customers very frequently form their ideas of a wholesale concern from the appearance, actions and characteristics of their traveling representatives. Therefore, create a good impression. Be a credit to your firm and let your personal appearance be such as to suggest thrift, industry, prosperity and success, and it will make you more successful, therefore more efficient.

What per cent are you entitled to in neatness?

17. Tact and Judgment.

Tact and judgment are almost synonymous terms which denote two of the most important mental faculties which a business man should possess.

**Tact and
Judgment**

Judgment is the judge enthroned in the court of our reason, before whom we submit all questions of doubt and expediency. Judgment never errs in his decision, yet, judgment never gives advice unless asked, because judgment is cautious and discreet

Tact is an attorney in the court of our reason; shrewd, artful, keen, to whom we refer our delicate and intricate problems for adjustment. But tact never fights a case in court. He arbitrates, and yet he always wins or gains the point desired. Tact never blunders, seldom fails, is popular and has no enemies.

Without judgment and tact you cannot be efficient. What is your percentage in judgment and tact?

18. Personality, Address, Approach.

We now come to that element of efficiency which we can see in others, but we cannot describe. That intangible something which commands attention. That magnetic influence which makes you look and look again, and listen, and listen again. I do not

**The Right
Kind of
"Personality."**

know whether the quality is physical or mental or both, but whatever it is, it is called "personality."

There are various kinds of personality, but all are distinctive in character or temperament. The kind that I am speaking about is the one I have just outlined, the kind that commands immediate attention when you walk into a man's place of business, the kind that makes your customer greet you first, the kind that makes your customers feel that he would like to know you better and more intimately, the kind that makes your customer glad when you call and sorry when you leave, the kind that makes your customers save their orders for you, the kind that creates enthusiasm, good cheer, smiles, and makes a man forget his troubles. This is the personality that wins. This is the personality which counts 100 per cent in efficiency.

What per cent have you?

19. Initiative and Originality.

The man who waits to be told to do everything, who works by the rule and clock, who never does more or less than the routine duties prescribed for him, will never rise above his present position. Few men are ever paid for anything more than what they earn, therefore, the man who is not increasing his earning capacity is seldom increasing his earnings. To increase your earnings is to develop your capacity for work and make the work bring results. This requires initiative and sometimes originality. The most successful men in business are generally the ones who created their own positions, that is, they developed the jobs they had from comparatively insignificant to executive positions. The man who cannot improve his job, create new responsibilities, broaden its scope, increase its results and improve its efficiency is not the man modern business men tie to. Business men of today are on the alert for men with ideas, men with the initiative, men with originality, men who can develop the positions which they hold to the maximum of efficiency.

**"Initiative"
Means
Developing
Your Job.**

This is especially true with reference to traveling salesmen. Sales managers want salesmen with initiative and originality. Without it you will never progress. Have you got it? If so, what per cent?

20. Economy and Profits.

By "economy," as it relates to a traveling salesman, I mean the ability to sell at the minimum costs.

Some salesmen have enormous sales, but the cost of selling is so great that it offsets the profits. Other salesmen may only sell one-half the quantity in a given length of time and yet the net profit on their sales may be greater than the man who holds the record for volume. Volume is a fine thing under certain conditions, which I will enumerate, but it is all wrong unless it is accompanied by profit.

**Economical
Selling Means
Increased
Profits**

Profits, as made in the wholesale lumber business, may be created in two ways. First, by the margin or difference between the cost of the lumber delivered at destination and the price at which it was sold. From the profit, which is termed the "gross profit," the cost of selling the lumber must be deducted, which leaves the net profit. If the gross profit on a car is only \$20 and it costs \$8 per car to sell it, your net profit on that car of lumber is \$12. Therefore, if you have a fixed market price at which you must sell your product there is only one other way you can increase the profit, and that is by decreasing your expenses or by increasing your sales without increasing the expenses. Thus, if you sell sixty cars this month and your expenses are \$200 for the month, it has cost \$3.33 per car to sell. But if you can sell 120 cars this month without increasing your expense account, the cost of selling is only \$1.67 per car. But, if you double your sales from 60 to 120 cars per month and double your expenses also from \$200 to \$400, your cost to sell per car is exactly the same on 60 cars as it was on 120 cars.

Therefore the efficient traveling salesman watches his expense account, he keeps in close touch with his record of cost to sell; he strives from month to month to increase his profit, to reduce his expenses, and to decrease his cost to sell per car. Are you efficient in this respect? If so, to what extent?

21. *Knowledge of Human Nature, Psychology.*

One of the most superb mental qualifications for a traveling salesman to possess is the ability to quickly judge human nature.

The faculty is, to a larger extent, intuitive; or I might better express it by saying that the ability to judge human nature is a species of psychological instinct.

**The Faculty
of Judging
Human
Nature.**

This is the faculty which will tell you almost what your customer is thinking about when you are trying to convince him that he should give you the order, and it enables you to anticipate his objections or questions before he has uttered them. This

faculty is also the power to determine the truth of any statement which might be made by your doubtful customer; it tells you of your customer's peculiarities and thus enables you to be on your guard and not offend. It enables you to recognize honesty and dishonesty, and to determine the good from the evil in human nature. Psychological power or instinct is a mental detective, a sort of "Old Sleuth" of our brains which finds out and tells us things about others in strange, mysterious ways. It, like all detectives, works secretly, and were it not for the information it sometimes gives us about others we would make serious mistakes.

The power to judge human nature can be developed and cultivated by being observant, and watchful of all those with whom we come in contact and it is exceedingly valuable in business, and especially in the art of salesmanship.

Do you possess these qualities of mind? If so, what per cent?

22. *Co-operation.*

Co-Operation
Means
Team-Work.

By co-operation I mean team work, team work with your sales manager, team work with your mill, team work with your customers.

It is by "team work" that we are enabled to cover distance, to accomplish gigantic tasks, pull the heaviest loads, and by "team work" we can always make better progress up the rugged, rocky, narrow road of success.

By team work—co-operation—the burden of the "pull for business" is more evenly distributed, our tasks are lightened and we finish the day's work with greater distances and greater results, and with less fatigue than if each pulled for himself, in as many ways as there were men.

The value of team work, co-operation, in business is enormous, and when practiced by traveling salesmen in conjunction with all those who are associated with him, is a part of efficiency.

Do you practice team work? Do you co-operate? If so, what per cent?

23. *Wisdom.*

Finally, Are
You a Wise
Salesman?

We now come to the last of the list of essentials for a traveling salesman, and probably the greatest.

This essential qualification is wisdom. "Wisdom" might by some be confused with knowledge or with judgment, but wisdom is different.

Knowledge is that technical or specific information you acquire by study or work about a certain thing, trade or profession.

Judgment is the ability to decide correctly between two or more paths which lead in different directions, or the ability to determine the right from wrong, the good from the bad. Judgment, as before stated, is the judge which presides in the tribunal of our minds.

Wisdom is still greater; wisdom is the guardian of all our mental faculties and is the tutor of knowledge. Were it not for Wisdom, all the knowledge you possess would be valueless. Knowledge is something acquired; wisdom is an inborn faculty. You may teach a parrot to talk, but lacking wisdom it does not know what it says. Thus, to obtain the best results from the knowledge you possess as a traveling salesman you must have that executive faculty called "wisdom" to direct its use and thereby obtain the best results.

To be absolutely efficient you must, therefore, have wisdom.

Are you wise? If so, what per cent?

These twenty-three essentials which I have just named, and briefly analyzed, are, I think, the necessary qualifications for a 100 per cent efficient modern lumber salesman. If you have graded yourself as I enumerated them, and have been honest enough with yourself to try and not run in your No. 2 qualities for No. 1 and B and Better, I am sure you will not be denied your legitimate claims for your true grade as a traveling salesman.

Exploiting Southern Yellow Pine

By W. H. Sullivan

Chairman, Trade Extension Committee
Southern Pine Association

Bogalusa, La.

It is quite apparent that your chairman, Mr. Kendall, suggested and has worked out a plan of trade extension in getting you all together that in quick results excels and exceeds any of our Association efforts through the medium of the Trade Extension Committee. In these days when our great nation is considering

Preparedness, a policy in which we are in full accord, one of the terms in daily use may not be out of place. On you, gentlemen, who represent our great industry on the firing line, to a very large extent, depends its success. While for years I have regretted the fact that it has never been my privilege to be a salesman, however, with your permission I would like to make some suggestions, that, from the standpoint of trade extension, appeal to me as of some importance.

Trade extension means confidence in your product, successful operation, conservation of waste, satisfied customers, boosters in your sales organization, new uses for Southern Pine, objection to destructive competition, happy, contented stockholders, owners and employees.

Confidence in your product is the first essential and a thorough knowledge of what it can be used for to the buyer's advantage is necessary for the successful salesman, and in order to bring the further use of your product into prominence at this time, I would suggest that we all, the salesmen particularly, send up to the secretary during the day or not later than tomorrow the name of some important article manufactured in your territory which in your judgment might be made out of Southern pine. These suggestions will lead to a discussion that is sure to be of much value to the Association.

The successful operation of the Southern Pine industry depends to a very large extent on the sales manager and his assistants in the field. If the sales manager keeps in touch with the operating end of the business and knows from time to time just the quality and size of the timber that is being operated in and keeps his assistants thoroughly posted so they will know the kind of special timber to sell, it would aid very much in the success of the business.

The conservation of waste is one of the most important things in connection with the whole industry. Your success as well as the success of your employer is involved in this. By utilization of waste I refer particularly to the manufacture and sale of lath, the manufacture and sale of shingles, and the manufacture and sale of box shooks. Now perhaps the firm or company with which some of you are connected does not manufacture any of these articles, but that should not make any difference in your boosting the sale of these particular items, and you ought to consider it one of your most important duties to keep the Southern Pine Association thor-

**The Meaning
of Trade
Extension**

**The Industry
Dependent
on Sales
Department**

**Boost Lath,
Shingles and
Box Shooks**

oughly posted on the development of trade in your territory. It is apparent that it is so easy for you when making trips among your customers to find out whether they would be interested in handling Southern Pine lath or Southern Pine shingles and whether in any town you visit there is a manufacturing establishment which would be interested in Southern Pine box shooks. All of these materials, whether your company is directly interested in manufacturing them or not, would add to the success of your firm, if the trade in any of these particular lines was further developed; and think of the reputation as an up-to-date salesman a man would have if he was continually writing his own firm or by permission of his sales manager, writing direct to the Southern Pine Association, advising them that by a little effort in his territory something could be accomplished in the way of selling these specials manufactured from Southern Pine waste.

Satisfying customers is one of your particular duties. In my experience I have known quite a number of salesmen who do a large part of their business from the telephone booth in a fairly comfortable hotel. Now how a salesman can satisfy a customer who has a little claim, over the telephone, or how he can discuss his claim over the telephone, or how he can tell him about the particular advantages of his product over the telephone and have it effective, is more than a good many manufacturers can understand. The reason that lumber companies employ salesmen is so that through them they can be in close contact with their customers and so that any little misunderstanding that looks so big to a customer may, after discussion with the representative of the manufacturer, probably not seem anywhere near so large. Or perhaps it has happened many times that one of your customers has had an inquiry for some special material when, if you would discuss it with him personally instead of over the telephone, you would perhaps be of some assistance in helping out on the sale of a bill of lumber to advantage to the customer. Then you would be creating a good, substantial friend for your company. Of course, not all salesmen do business over the telephone. I am just mentioning the things that have been brought to my notice, and have no reflection on the splendid work which so many of you are doing all the time.

Boosters are necessary. The breezy air of the booster is always welcome in any office. Purchasing agents and owners of any sort of business are always glad to extend a warm welcome

**Doing
Business by
Telephone**

**The Booster
Always
Welcome**

to him and as a rule, it is the booster that gets the business. Everybody wants to hide when they know there is the weekly or monthly visit of a pessimist due, although he may represent a first class concern that ships good lumber and ships it promptly.

We all ought to be opposed to destructive competition in any sort of business. By destructive competition I mean the kind, as you know, where one company has a good customer, one that gives its salesman orders for considerable lumber. Another salesman will keep hammering at it until he gets his price so low that he will get a part of the business away, and then the first salesman will wire his company asking for permission to meet legitimate competition. These two words, "legitimate competition," should be eliminated from the vocabulary of every boosting, energetic man who represents our great industry in the field, as the term "meeting legitimate competition" simply means retreat—a hole busted in your first line of defense.

The sales organization of any institution has a great deal more to do with keeping the stockholders, owners and employees happy and contented than any other part of the organization. In any organization there is a continual effort to keep the cost of manufacture down as low as possible, and when the best operating organization has worked hard for thirty days to succeed in getting the cost of production reduced five cents, they are very much pleased, while the sales organization cuts the price a dollar without very much concern. And I know from experience in our own business that our profits are almost entirely controlled by the sales organization. If a half dozen salesmen write in to the sales manager that in order to meet legitimate competition they have got to reduce prices a dollar and after they have written in this strain for three or four times, down comes the price. Perhaps if the salesman understood the territory and understood the reasons for a little depression and would give that impression to the sales manager instead of asking him to reduce prices, it would have a very much better effect on the business and on the organization.

What is your ambition? Is it to sell Southern Pine lumber, or simply that you like to travel around through the country and get some experience and education by constantly meeting people? I have heard some men say, men who were traveling not only for our own concern but for others also, that they felt that two or three years spent in going around meeting people would be a very valuable experience, but that they did not have the idea of taking up

**The Evil of
Destructive
Competition**

**Unnecessary
Price Cutting**

this business of selling lumber as a life work. It is very easy, in looking over the monthly statements of the sales department, to pick these men out; and there is a constant effort being made, I presume, by a lot of manufacturers to eliminate men of this kind from their field force. If it is your ambition to sell lumber, you will find every day something new that is useful, something that will help you and your firm, and if your ambition is to sell lumber, you will be a booster, and a booster gains friends everywhere. If it is your ambition to sell Southern Pine lumber, you will be so vigorous and will spend so much time in developing your territory that the people for whom you work will have their eye on you constantly, and when an opportunity presents itself you will be recognized as a man of ability, and your future will be secure.

What Is Your Ambition?

The only way to know your territory thoroughly is to visit every manufacturing plant and every lumber yard that has been assigned to you. How many times during the past year after having made a thorough canvass of your territory have you written your firm asking them to stop the production of certain sizes which, from your observation, were in surplus in your territory? If you don't give your firm such information, the probabilities are they will continue manufacturing these sizes and a little later on, when they are not moving readily, you will write them that there is a surplus of these items and in order to move them it will be necessary to reduce the price; while if the information had been passed along to your firm when you first noticed the items in surplus it would have undoubtedly saved them considerable money.

Salesmen Are the Eyes of the Industry

How many times during the past year did you write your firm to advance the price on certain items that from your observation at the retail yards were getting scarce? You are the eyes of the industry. If you use them to advantage, your companies will be successful. Every time you visit one of your customers you ought to look his stock over and in a general way find out what items he is short of and what are in surplus, and after a week spent in your territory visiting all parts of it, you would probably be able to advise your firm of the sizes that are getting scarce. It is the items that are in surplus that cause depression in prices.

How many times have you wired your headquarters during the past few months asking for permission to reduce prices, with the statement that it must be done to meet legitimate competition; while the same fifty cents spent on this day or night letter would have taken you fifteen or twenty miles on any railroad and probably

gotten you to a town where you could have disposed of some of your product to advantage without reducing the price?

**Varying
Complaints
With Praise**

You frequently write and complain about grades and manufacture. Do you ever write and say that the last car shipped on order No. 1000 was the best graded and best manufactured car ever sent into your territory, and that your customer is very much pleased? All operating men are human, and a letter of this kind, coming from the field force, would be circulated throughout the plant and would give all of your operating organization confidence in themselves and would speed them on to greater efficiency in their grading and manufacture.

It's a great privilege to be connected in any way with the lumber industry—its been my good fortune to be associated with the Trade Extension Department of both the National Lumber Manufacturers' Association and with the Southern Pine Association, and as the result of a few months' work we are fully convinced that in order to reach the consumer most effectively, we must do it through our selling organizations, made up as they are of men who, as a general rule, are thorough-going, clean, square fighters for business, and although there are a few clouds on the horizon of our industry at present, we can see into the future far enough to know the result of the valiant fight being made. The lumber industry is coming to be a real business.

If you cannot sell lumber, boost paper products made from sawmill waste.

Selling Factory *and* Industrial Trade

By C. W. Myers

**Representing W. R. Pickering Lumber Co.
Detroit, Mich.**

At the call of the Committee on Arrangements of the "School of Salesmen" we are here to discuss and hear discussed practically every branch of the industry which we represent. In my mind there is no one department that represents as much to those who have investments in the different organizations that we represent as the Sales Department. In this connection, I am sure there no de-

partment from the logging operation up that has shown less comparative progress.

Living as we are in an age where only those who have attained the highest type of efficiency are able to keep up with the procession, it is highly important that we as salesmen develop a higher degree of efficiency. I would ask that some of you older salesmen give a moment's reflection and see if you can recall where you have materially changed your offensive tactics in your battle for orders during your long terms of service? In order to more forcibly bring this to you, I wish to quote from a speech made by our chairman, Harry T. Kendall, delivered before the Central Association of Lumber, Sash and Door Salesmen at Chicago: "Lumber is sold today in exactly the same way it was sold fifty years ago. In the manufacturing end, the lumberman has kept fairly abreast with the times, but in the selling of his product he is antideluvian."

**Higher
Efficiency
a Need**

Selling lumber is a profession and to illustrate let's take the medical fraternity in the times of our forefathers. Who ever heard of an eye specialist or a throat specialist? It was plain Dr. Brown, the "cure all." At a convention of the American Medical Association held in Detroit early this month, I counted ten different and distinct branches of specialists represented, showing the progress made in the medical profession, through specialization.

With this concrete example before us, we must recognize the necessity of a higher degree of efficiency in salesmanship. Specialization, the method which has attained efficiency in other professions, must be applied to the profession of salesmanship. The selling of lumber, to my mind, should be divided into no less than four branches:

**This an Age
of Speciali-
zation**

First—Selling the retail yard trade.

Second—Selling railroad and car shops.

Third—Selling export trade.

Fourth—Selling factory and industrial trade,

All of which are peculiar to themselves. The last duty has been assigned me by the committee for discussion. Selling the factory and industrial trade has many serious handicaps at present. Success can only be obtained by close co-operation between the manufacturing and the sales department.

My experience in selling factories has brought to my observation a very serious deficiency on the part of the manufacturing department and leads me to make the statement that the manu-

**Mills Fail to
Provide for
Factory Needs**

facturer leaves off manufacturing where the real profit begins. There is an increasing demand for cut to length, specially worked stock, but how very few are the planing mills that are equipped with proper machinery to execute these orders.

Let us take as an example interior trims. Do you know of any reason why our rough finish should be shipped into the Northern markets on highest rates of freight and made into cut to length casings, stiles, jambs, stool aprons, blocks, treads, risers, newels, balustrades, built-up stair rail, etc., when with the addition of a very little equipment and skilled labor it can be produced at your own plant cheaper, and marketed at a better profit by some one of your sales force who will develop himself along the line of specialization in this line of salesmanship. It is true that we cannot all develop profits along this one line, but I am using this as an illustration only of one of the many lines that can be developed by the salesman with the co-operation of the manufacturing branch. Selling factory and industrial trade demands close study of their different requirements. The yellow pine industry has already lost to allied wood a big volume of business on account of the salesmen failing to study usage to which the stock they were selling would be put and by this error of judgment he has not only failed to secure repeat orders but has kept other concerns, who could furnish suitable stock from getting business.

**Industrial
Trade De-
mands Close
Study**

To make this argument plain, only a few days ago I called on the buyer for one of the largest automobile manufacturers in Detroit and was informed by the purchasing agent that they did not use any Southern pines. Knowing that other automobile concerns were using large quantities of 6-inch No. 2 for export crating, I asked his reason for using a substitute. His answer was that on account of the weight and the hard flinty character of yellow pine he found it more economical to use another wood. After going over the subject thoroughly with the purchasing agent and the man in charge of their crating, it developed that they had evidently always used long leaf stock, when they had used yellow pine, but that a soft variety of short leaf such as can be procured from many Southern manufacturers would be equal in serviceableness in every respect to the wood they are now using and on even a lower basis of price than they are now paying would net a nice f. o. b. mill price to the manufacturer. The foregoing observations serve to bring out two points: *First*, the importance of a specialty salesman having a thorough and complete knowledge of the wood they

are selling; and, *second*, if it will meet the requirements for which it is sold.

The first requirement is to my mind not nearly so general among salesmen as one would naturally think. The second requirement is a matter to which only a small percentage of yellow pine salesmen have given serious study. Unlike selling to the retail yard, you have a different condition to meet in each industrial plant, which necessitates a close study of their requirements. The second point my illustration brings out is the fact that almost without exception the purchasing agents of the different industrial plants have a very limited knowledge of lumber, as pertaining to the manufacturing methods, grades, etc., for the reason that their lumber consumption represents a very limited part of their raw material purchases and for this reason the buyer is governed largely by price and the price is in many instances made to them by salesmen who contemplate the substitution of lower grades.

Each Industrial Plant a Separate Problem

The point I wish to bring out in this connection is the importance of the salesman having a thorough and complete knowledge of the wood he sells, proper use of each grade, and a fair knowledge of operating methods in order that he may help solve the problems of his customer and educate him to the uses to which different grades can be put from an economical standpoint, this educational campaign on the part of the salesman, in my mind, stands first in importance. You not only obtain the confidence of the purchasing agent by impressing upon him your knowledge of the yellow pine industry by being prepared to state quickly and positively if your own mill or any other plants are able to work stock in accordance with their requirements, but it will ultimately overcome another very serious handicap: The substitution of grades and the buying by industrial plants of woods unfit for the use for which they are intended. By overcoming these very serious defects in their marketing methods, the yellow pine manufacturers will have done much towards the successful marketing of their products.

There is another very, very important problem that the specialty salesman must solve, and that is the disposition of short lengths. The matter of marketing short length stock is and has always been a problem to the manufacturer of lumber and we all know that the percentage sold to the consumer direct as compared to the sales made to the wholesaler is very small. I am of the opinion that a comparative statement made up by the manufacturer will show

Short Lengths and the Specialty Salesman

that a very small proportion goes to the consumer direct, and that the major portion goes to certain concerns who specialize on shorts and mill odds and ends and who are showing a nice margin of profit on their operations.

There are two conditions that make this possible: First, the fact that the personnel of these concerns are men who have studied closely the requirements of the industrial plants and who, by knowing the proper use and requirements are able to fill their orders at a small reduction under what the manufacturer is asking for his regular lengths; second, their ability at all times to buy these items at a greatly reduced price from the manufacturer, which goes to show that they are keenly alive to the situation as a result of a close study of factory requirements. You have no doubt seen the report made by a committee made up of retailers and the secretaries of various retail dealers' associations after their visit to several plants which pertained to crooked stock, and the adoption of their recommendation to the manufacturer will mean an increased production of short lengths. There can be no good reason why lengths under 10 feet, even or uneven, should bring a less price than staple lengths, as long as there can be made a demand for this stock. Unquestionably the demand is increasing and it is the duty of every salesman to study every condition that presents itself with the view of further increasing this very important demand, and I hope the time is not far distant when we can bring the price of short lengths up to very close to the price of staple lengths, thereby very materially increasing the mill average for the manufacturers. As before stated, to me this seems of sufficient importance to be given a place in our general discussion, or better still, to be made an assignment at some later meeting.

**Short Lengths
Worth As
Much As
Long**

Claims *and* Disputes; Their Cause *and* Settlement

By M. L. Wuescher

Auditor, Great Southern Lumber Company
Bogalusa, La.

A claim in its final analysis is the result of a mistake or misunderstanding. To treat this subject intelligently, it is necessary to first determine definitely at what points claims develop and their causes.

A careful study of the matter brings forth the fact that usually the causes of all claims develop at three given points.

First—In taking the order from the customer by the salesman.

Second—Execution of the order by the mill.

Third—Inspection and tallying of stock on receipt of car by the customer.

In order to treat this broad subject in a logical manner let us first consider the causes of claims, originating at the time the salesman solicits and accepts the order from the customer.

Experience teaches us that the usual causes of claims at the first point, or at the time of taking the order by the salesman, can be classified as follows:

Making errors in the description or in the price of lumber in transmitting the order to the mill, and by not having all data pertaining to the order written into the order, rather than in an accompanying letter.

Inserting wrong routing or incorrect rates in the order transmitted to the mill.

Making special agreements with the customer regarding stock and not sending sufficient information to the mill covering the transaction.

By not advising the mill on orders for special stock, for what purpose it is to be used if possible to ascertain this information, and in the case of orders for special worked stock not accompanying same with blue print, whenever possible.

Selling lumber on comparison.

Salesmen not being entirely familiar with conditions at the mill and its operation.

**Claims
Develop at
Three Points**

**Claims Aris-
ing from Sell-
ing Errors**

Liability of misunderstanding between customer and salesman, in the descriptions of lumber or prices, in soliciting and accepting orders over the telephone.

Claims from the above causes could be minimized or practically eliminated if the salesman would pay very close attention to the following:

**Preventive
Measures for
the Salesman**

All salesmen should have a standard and uniform method for writing up the order. This order should include all instructions, special routings, correct rate, and any other information, rather than to put same in an accompanying letter.

Salesmen should also be familiar with the routings and rates applying to their territory. In case the customer desires special routing the salesman should be very careful to see that the routing specified will not increase the rate to the point of destination.

Make no special agreements with customers as to the class of stock to be furnished, unless you advise the mill thoroughly and specifically regarding same.

All special stock should be investigated carefully and the grade and complete specifications as agreed on between the customer and the salesman should be written into the order. Do not fail to advise the mill wherever it is possible, the use for which the material is intended. If the stock is worked special, accompany the order whenever possible with a blue print showing the correct working.

Lumber should not be sold on comparison with stock manufactured by other mills, for, in the event of a claim there is no mutual ground for settlement, or an arbitrator on whom you can call.

All salesmen should be familiar with the conditions at the sawmill.

When an order is accepted over telephone be sure a confirmation is immediately sent you, and compare same with the order sent the mill.

**Urge Use of
Association
Grades**

Endeavor to educate your customer to use Southern Pine Association grades whenever it is possible. This, however, does not mean for you to pass up an order or to discourage the use of special grades wanted if they are best suited for the purposes intended.

Sell regular yard and shed stock only on the grades and specifications of the Southern Pine Association.

We will now take up for consideration the second point, or the execution of the order by the mill.

Experience also teaches us that claims usually develop during the execution of an order at the mill, from the following causes:

Errors in grade.

Errors in tallying.

Shortages.

Mismanufacture of lumber.

Poor planing mill work.

Errors in invoices and price.

Difference of understanding between the sales office and the shipping department.

Shipping lumber during unfavorable weather conditions.

Shipping green lumber.

Putting wrong routings in bills of lading.

Mill being forced to use equipment not adapted to order, especially during car shortages.

Not shipping proportion of the correct lengths.

While these items cover the cause of claims originating at the mill, I believe it would be more appropriate to bring this matter up for discussion at an operators' meeting rather than at the present one, where we are dealing primarily and principally with sales problems.

We will now consider the third point, or the inspection and tallying of the stock on receipt of the car, by the customer. The customer and his assistants who receive the stock are only human; therefore are liable to mistakes. The principal causes of claims and disputes originating with the customers may properly be classified under the following heads:

The human element, or the natural difference of opinion between the employees of the customer and the employees of the mill, particularly in tallying and grading, for grading is not an exact science and a reasonable variation of opinion between the inspectors should be recognized.

Rough handling and breakage of lumber when unloading same from the car.

Natural disposition of purchaser to compare the lumber of one manufacturer with the lumber of another, instead of using the Southern Pine Association grading rules.

Actual mistakes in tallying and checking the lumber.

**Claims
Developing
at the Mill**

**Claims Origin-
ating After
Delivery**

Extremely technical inspection by the buyer of lumber on a declining market.

Delay of shipment of the car beyond the time promised by the mill.

The settlement of disputes or claims must necessarily be done on an impartial and equitable basis, and should on their conclusion be satisfactory to both the customer and the mill. However, salesmen settling claims with customers should continuously bear in mind that they are in the employ of the manufacturer and should guard his interest very carefully.

When a claim is filed by a customer, full and complete information should be submitted to the mill immediately, not simply advice that the car has been refused or that a claim has been made on part of the shipment.

In order to handle the adjustment in a most efficient and most business-like manner, the following information should be furnished the mills:

Car and order number.

Date of arrival of the car.

Condition of delivering equipment, with seal numbers, if any.

General condition of the load.

Full and complete report as maintained by the customer.

Full report of stock in accordance with your best judgment, including grade marks.

If stock has been unloaded, whether or not any of it has been sold or remanufactured and the manner in which it is being taken care of, whether stacked in the open or under cover.

Best adjustment that is acceptable to the customer, with recommendations as to whether or not it should be accepted by the mill, and if not, what other disposition you can make of the lumber.

All of this can be incorporated in one letter so that definite, prompt and final action can be taken by the mill without endless correspondence.

In conclusion, all salesmen should remember that claims mean monetary loss to the mill and if by following some of the foregoing suggestions claims can be avoided, it will be much easier for salesmen and beneficial to the mill, to assist in forestalling disputes rather than to effect their settlement.

**Salesmen
Should Guard
Employers'
Interests**

**Information
the Mills
Should Have**

Yard Stock Grading Rules

By J. W. Martin
Long-Bell Lumber Company
Shreveport, La.

The whole subject of grading lumber is, I should say, a judicious selection of material under consideration for specific purposes; therefore yard stock grading rules should be framed to tersely express the qualities it is desired should be grouped together and represent one class in general retail yard trade.

It will never be possible to get all men to agree as to either the value or desirability of boards or planks of any particular kind for specific purposes, as some will select as most desirable those pieces that least offend the eye, and are "easiest to look at," arguing that the customer will be inexperienced and influenced in like manner; others will demand certain physical qualities not found in the "easy to look at" pieces and base their choice on some former experience of their own, and probably their attitude will be sound, and yet they may miss some sales because of that attitude; others will be impressed with the wisdom of "a judicious mixture," arguing that the customer will be able to find in each lot under their grading a board to his liking for every specific purpose for which he will need a particular board; others again will be influenced by generalities, and if the general effect is pleasant, or good, from their viewpoint, they are apt to decide that the grading is right, or, if the reverse is true, that it is wrong; all of the foregoing individuals have endowed the customer with their own viewpoint, they have concluded along certain lines, hence the customer will conclude likewise, and I presume he usually does—unless he chances to have made his conclusions from certain deductions of his own, and refuses to lose sight of them, in which case he becomes a "crank" and "that brings on more talk." Another class, and he is usually called a "smooth duck," grades to "get by;" he doesn't believe the customer knows as much about the physical value of lumber as he does, and he is usually right, and so he grades his lumber up to the taste of the community his yard serves; he knows every possible manipulation of a board, a studding, a joist or piece of siding, flooring or finish, and he explains every objection the customer brings up, and usually he satis-

**Varied
Standards
in Judging
Lumber**

fies and sells the customer, and if the customer follows the instructions he got from the dealer he usually remains satisfied, if he does not, then all is not so lovely.

Now in the foregoing I have attempted to outline general conditions in yard grading, but I have not touched on the actual conditions to be considered here, that of yard stock grading by the manufacturer, and I am going to amend the title of the subject by saying we must consider it under the caption of "Yard Stock Manufacturing and Grading," and the manufacturer who is doing the best work along this line is the one who has given intelligent consideration to every physical characteristic of the trees he is using, and I am speaking wholly of Southern Yellow Pine.

He must recognize that there should be the least possible time allowed to elapse between the cutting of the tree and putting the logs into the water; that logs should never be cut and allowed to lie end to end in the woods, or singly, or on a skidway, in hot weather, or blue sap is a sure consequence. He must recognize the fact that his machinery must be kept at the highest condition of efficiency, that lengths should be checked every day, and widths at least twice a day at the sawmill; that lumber should be piled to shed rains, have ample air spaces in the pile; that cross strips should never be more than four inches wide; that a pile should never lean forward; that it should be roofed to drop the rain clear of the rear of the pile; that 2x4 should be piled on edge and have a cross-piece every 4½ feet; that he should keep enough moisture in his kiln to prevent the surface of the piece from shrinking first and checking in consequence, and that he must saw his logs into material that will carry the defects, that is, red heart into boards and very pitchy material into timbers, fencing and dimensions where pitch is a virtue, and keep it out of siding, ceiling and finish, which presupposes a paint, stain or oil finish; and then when he brings it to his planer to put the finishing touch upon it he should see that the best is done there that can be done—it should come out evenly and smoothly dressed, not torn and chipped in the machine; it should be gauged by steel gauges milled out to a machinist scale both as to thickness and widths, and not measured by a rule, which, if not held accurately at right angles is sure to give incorrect results, whereas with the gauge it can be measured in the dark; in simple words we should add nothing to the natural defects of our material in the process of manu-

**Yard Stock
Grading by the
Manufacturer**

**Factors of
Efficiency in
Lumber
Manufacture**

facture, but should add to its desirable qualities by excellence of finish, all other conclusions are fallacies.

Now finally as to grading—grade as close to established rules as careful consideration of the rules enables you to grade, for the rules established will always represent the best conclusions so far arrived at. No manufacturer has so much margin of profit, or such a surplus of excellence in his timber that he can overgrade, and the grading bureau of the Southern Pine Association to which disputes must be referred for adjustment is sure to show up any undergrading that is referred to them for determination.

**Grade Close
to Estab-
lished Rules**

The great result desired in any trade is profitable manufacture and satisfied and well served customers, and both cannot be secured except by suitable selection of material for each commodity. Wide ringed loblolly does not produce acceptable joist or timbers, but if fairly free of knots it produces beautiful grain effects as finish. If knotty it serves as well as any for sheathing, floor lining, etc. Firm red heart will outlast any other heart lumber that is not water-proofed by pitch; it takes paint perfectly but it does not stand wear as well. A coarse, knotted board will serve as well as a clear board in certain places; a wormy studding will hold nails and stand as firm as if the worm holes were not there, therefore I hold that grading for yard stock is not merely the separation of the lumber after manufacture, but that it begins with the cutting of the tree, extends throughout the sawing, drying and planing of the lumber, even to the manner in which it is loaded into the cars, where care in its bestowal can insure its escape from many defects added to it by the vicissitudes of transportation, and the shock of many sudden stops and starts.

**The Right
Uses of
Lumber**

Finally, I would sum all the foregoing into a few words about as follows:

Know your trees and their physical anatomy, manufacture them so that their desirable physical characteristics will be best employed, and not into commodities where such physical characteristics are objectionable; add no defects by carelessness or neglect, but on each piece endeavor to put the brand of excellence of manufacture, then grade or classify according to recognized and established grading rules—and the best possible results will be had.

**Put the Brand
of Excellence
on Each Piece**

Wood Substitutes

By H. S. Sackett

Forester, National Lumber Manufacturers'
Association
Chicago, Ill.

The principal wood substitutes are brick, steel, concrete, fibre board and patent roofings. There are also some others of lesser importance, such as metal lath and terra cotta.

Brick displaces wood mainly in home and factory construction, and in large cities in the construction of apartment and flat buildings, its principal use being for both exterior and interior walls. It is used especially for this purpose on account of its fire-resistant properties and its tendency to lessen or make more difficult the spread of fire. It should not be lost sight of, however, that after a fire has attacked a building the one with brick walls is more difficult to fight than the one made of wood, owing to the fact that the walls are harder for the firemen to get through, and furthermore, because they form a veritable chimney for the fire itself. The use of brick has very greatly increased during the past few years, not so much because the home builder or the factory builder has demanded it, or wanted it, but rather owing to the fact that legislation has compelled its use. Cities and thickly settled communities are constantly extending their fire limits, and this necessitates the use of greater quantities of brick, and therefore less wood. In all this agitation the legislators forget one vital fact, and that is, it is the contents and not the building itself, that causes the fire, and with so-called fireproof construction the tendency is toward even greater carelessness, and therefore more fires—a situation which is borne out by actual facts. If we could ever advance in this country to the high efficiency of the Germans, what a wonderful forward step we could make! In Germany, for example, when a home builder has a fire the first person that visits him after the occurrence of the fire is the police department, and he is immediately put under arrest, and unless he can prove to the satisfaction of the court that he had nothing whatever to do with the fire or its cause, he is liable to imprisonment and fine. In any event, he is obliged to pay all damages which the fire may have caused to his neighbor's property, and also for the use of the

**Where Brick
Displaces
Wood**

**A Fact That
Legislators
Forget**

**After a Fire
in Germany**

fire department in putting it out. We are already making some advances in this country in this direction, for recently in Cleveland, Ohio, an ordinance has been passed requiring the individual who has a fire on his property to pay the expenses of the fire department in fighting it.

Aside from its use in building construction, brick is used to quite an extent for street paving. Its principal disadvantages for this use are that it is noisy, slippery, of low tractive efficiency, and does not stand up well under heavy traffic. The wooden pavement, on the other hand, is far superior as regards noise, durability, tractive efficiency and wearing qualities.

**Brick and
Wood in
Street Pavements**

Steel has displaced wood for a great many purposes. Probably one of the most important is in the manufacture of steel cars, both passenger and freight. This situation has been brought about mainly by agitation and an effective publicity campaign, and not through any advantageous merits of steel over wood. The agitation has been fostered and aided by the "Safety First" campaign, and the theory, not proven, that steel cars in train wrecks afford a greater protection to passengers than the wooden ones. The indications are that this is not so, for in recent wrecks on trains in which there were both wooden and steel cars, the former have, on the whole, experienced less damage than the latter. As a matter of fact, railroads are not looking with as great favor on steel cars at the present time as they did some years ago. Very recently an inspection of the ends of some steel passenger cars in Milwaukee, Wis., showed that they had completely rusted through in eighteen months—a condition which would never have been found in a wooden car. This exceptionally fast rusting was doubtless due to the fact that steel instead of wrought iron was used, and that the rusting was aided by the sulphurous smoke from the engine. Temporarily, owing to the scarcity of steel in freight car building, there has been a return to the wooden superframe, and also in many instances, to the wooden underframe cars. It is questionable whether or not this condition would have obtained had there been no European war, for this is directly responsible for the scarcity and high price of steel. No doubt in the United States we will go through the same experience of a number of European countries, who turned some years ago from the wooden car to the heavy steel car, and then went back to the wooden car.

**Steel in
Competition
with Wood**

**First Wood,
Then Steel,
Then Back
to Wood**

Steel has also displaced wood to a very large extent in the construction of factory buildings where it has taken the place of

Steel Substituted for Structural Timbers

structural timbers. The principal objection to the use of steel for this purpose is that it is more costly, is a more difficult type of building to alter, and in case of fire, unless the steel is protected, is a total loss. In this connection it is interesting to note what has been said by the National Board of Fire Underwriters in their "Code of Suggestions for Construction and Fire Protection:—"

Steel and Wood in Fire

"An unprotected steel beam when attacked by fire is not as reliable as a wooden beam. The reason is that steel loses its strength very rapidly when heated in excess of 500 to 600 degrees F., and such temperatures are easily attained in an ordinary fire. On the other hand a wooden beam of large cross section would burn fiercely over its whole surface, but the actual rate of penetration would be slow, consequently considerable time would be required for the beam to burn sufficiently to produce collapse even in a hot fire. This fact indicates the necessity for protecting steel beams, but does not warrant the substitution of wooden beams for steel. Other considerations may at times justify the use of timber construction instead of steel work, but unless protected by sprinklers, or covered with some non-flammable material it adds to the fire hazard in the room in which it is exposed. If necessary to use a heavy wooden beam in a cellar as above suggested, it is recommended that if not protected by sprinklers it be covered with metal lath and plaster, or with asbestos or plaster board.

"For the reason herein explained, it is necessary that all metal structural members used in dwelling house construction should be fully encased in fireproof material, the same as would be required in other buildings."

Where Steel Has Increased Use of Wood

In some ways steel has increased the use of wood. For example, steel has made possible the construction of our skyscrapers, and as these buildings require very large quantities of interior trim they have necessarily made a greater demand for the use of wood for this purpose, principally hardwoods.

Steel has also displaced wood very largely in the construction of bridges which formerly required very large amounts of structural timber. In this connection, however, it is of interest to learn that the railroad engineers are now turning to wood instead of steel, owing to the fact that steel now costs just about twice what

it does ordinarily. The chief engineer of one of the principal railroads recently stated that in view of the high price of steel it is decidedly more economical at the present time to build bridges of wood.

Another instance in which steel has displaced wood is in the manufacture of metal filing cabinets, desks, and other office equipment. It is also used for doors, in the construction of metal lath, and for electric light and transmission poles, and has recently entered the box or shipping container field. Some time ago the breweries attempted to use metal cases for shipping bottled beer, but they found that so many bottles were broken and that the life of the case was so short that their use was not profitable.

**Office
Equipment
of Metal**

Steel is also entering the field of interior trim in the large office buildings, and is thereby displacing quite a quantity of hardwoods. The disadvantage of steel in this use, particularly as sash, is that it has a tendency to rattle, and is kept weather tight with difficulty.

The manufacture of metal drums has long made inroads into the barrel business. Their great weight, however, the necessity of returning them to the owner, and the high loss in breakage, are making their profitable use very questionable.

Concrete has displaced wood to a very large extent—in some places with propriety, but in others with very great question. In the construction of sidewalks there is no doubt but what the everlasting sanitary concrete is much to be preferred over the wooden sidewalk. In other places, however, it is difficult to justify the use of concrete over wood. Probably the greatest use to which it has been put as it affects wood, is in the so-called fireproof construction. In office buildings and factories where loads of 300 pounds per square foot or more are required, the use of concrete is more economical, but it must be recognized that the concrete structure is more difficult to alter, and that the floors must be covered with a softer material for the workmen to stand on. In buildings demanding less than 300 pounds per square foot heavy timber construction is more economical, and when properly sprinklered is decidedly preferable to any other type of construction. This is so not only on account of the ease of altering, but also on account of the low insurance. Concrete has also gone very largely into bridge construction, particularly in rural communities. Its use for this purpose is recommended, and there is no question but

**Concrete
As a Rival
of Wood**

**The Grades
of Lumber
Affected by
Concrete**

what it is more satisfactory than wood, and while it has displaced to quite an extent the use of certain kinds of wood, it has aided their use in other ways, owing to the fact that such large quantities of wood are demanded in the building of concrete structures. What concrete has done in reality is to decrease the amount of high grade material, and increase the amount of low grade demanded.

**Fibre Board
In the Box
Industry**

Fibre board has made quite a serious inroad in the box industry. Statistics compiled by the United States Forest Service a few years ago showed that of the boxes then in use about 90 per cent were of wood, and 10 per cent of fibre. This indicates that of the 5,000,000,000 feet of lumber annually going into boxes one-tenth, or 500,000,000 feet have been displaced by the use of fibre board. The competition has been mainly in the smaller packages where strength has not been an important factor. The main disadvantages of the fibre box are that it cannot stand wetting, that the contents suffer a considerable loss from rats in warehouses, and it cannot stand rough handling. The use of the fibre box has resulted in very much increased claims for damage on the part of the shipper, even though the tendency is to handle the fragile package more carefully.

**Tile, Slate
and Patent
Roofing**

Tile, slate and patent roofings have likewise reduced the market for wooden shingles. This has been accomplished not so much through any great merit, and certainly not on account of price, for the wooden shingles are lower in cost, but mainly through advertising, and the situation instead of improving is growing worse, and may even result in the shingle manufacturers being obliged to make their product fire-resistant before it is put on the market.

**Substitutes
Displace 10
Billion Feet
of Lumber**

Summing up, it is estimated that the substitute manufacturers are displacing annually about 10,000,000,000 feet of lumber, or 25 per cent of the normal production. Furthermore, some of the substitutes, such as steel freight cars, asphalt shingles and metal lath are comparatively new and their influence in the future will be even greater than at present. It is also worthy of note that the unit cost of manufacturing several of the substitutes has decreased, such as cement, for example, while the unit cost of manufacturing most wooden articles has increased.

To offset the inroads of the substitutes is needed a country-wide educational campaign on the merits of wood for the various uses to which it is put. Such a campaign if backed up by authentic data and information would accomplish much. There is

also another agency equally as effective, and that is the lumber salesmen. If all of them in the United States, in their daily contact with the dealers and consumers of wood, would preach the gospel of "wood where wood is best," and back it up by sane, authoritative facts, the result, not only in the increase in the use of wood, but also in fostering a favorable public attitude, would be beyond conception, and the value of the salesmen to the industry would be increased many fold.

**How to Offset
Inroads of
Substitutes**

Association Publicity as a Lumber Salesman

By W. J. Ferry

Advertising Manager, Southern Pine Association
Kansas City, Mo.

Among the forces that have to do with the manufacture and distribution of Southern Yellow Pine the two that should be allied most intimately are the sales departments of the various subscribers to the Southern Pine Association and the Association's advertising department. Their interests are identical, their activities are along the same general lines—they are, in effect, one. While the Association's advertising department is not seeking to push the product of any one lumber manufacturer, the department in a general way is engaged in precisely the same work that engages the talents of each of you gentlemen—it is striving with all its might and main to sell Southern Yellow Pine. Therefore, the more harmoniously we can work together—the advertising department in stimulating the demand for Southern Yellow Pine and you gentlemen in satisfying that demand—the more effective results will be. The Association advertising department is an advance agent for you, intent upon arousing interest in your product, emphasizing its good points, suggesting new uses for it, paving the way for you and your order book. Of all the activities of the Southern Pine Association, none is so directly important to you as the work of the advertising department. That being true, it may not be amiss to give you some brief outline of what that department has done, what it is doing and what it plans to do to promote a larger use of Southern Yellow Pine.

**Sales and
Advertising
Department
Allies**

**The Divisions
of Advertising
Activity**

The work of the Association advertising department may, in a general way, be grouped in four divisions: (1) Display advertising, placed in periodicals of various classes; (2) the compilation and publication of booklets, pamphlets and other publicity literature, some of a technical character; (3) creating and establishing a co-operative service for retail lumber dealers, and (4) the dissemination of special articles, or "feature stories," more or less directly, but not obtrusively, exploiting Southern Yellow Pine and the Southern Pine industry.

**The Use of
Display
Advertising**

The display advertising used has been directed principally to the consumer. At the beginning of the advertising campaign business conditions in the country were such that our best field for prompt results seemed to be the rural districts, consequently the major portion of the early advertising copy was addressed to farmers and placed in farm journals. As the campaign developed we extended our effort in the classes of periodicals used, taking in architectural, engineering and other technical journals, the lumber trade papers, numerous magazines, such national weeklies as the Saturday Evening Post, Collier's and the Country Gentleman, and in a few special instances daily newspapers in large cities. The total circulation of all publications used to date is in excess of 17,000,000, and the greater number have been used repeatedly. Of the total circulation of these various publications, the magazines and national weeklies, represent 5,800,000; the daily papers, 565,000; architectural and builders' journals, 130,000; engineering papers, 128,000; lumber journals, approximately 80,000 and the farm papers, approximately 8,000,000.

**The Class of
Advertisements
Used**

The purpose has been to make all this display advertising forceful and direct, avoiding generalities. In the farm papers we usually have directed the readers' attention to one building, or one class of buildings in each ad, urging the need of a new barn in one, a silo in another, grain bins and cribs in another, etc., always laying stress on the superior qualities of Southern Yellow Pine for farm buildings. In the technical journals we concentrated in one advertisement on heavy construction, in another on the Association's inspection service; in another, as on the density rule; in another, on wood block floors, etc. The lumber trade journal copy has been devoted to impressing upon the retail dealer the value of Southern Pine Association service in its co-operative features. In the architectural papers, national weeklies and magazines we have laid stress on the superior strength

and durability of Southern Yellow Pine for framing and exterior trim in building generally, its adaptability for interior trim and finish, its moderate cost and its availability.

In supplementing this display advertising and in taking care of inquiries provoked by it, there was a necessity for literature containing definite and detailed help and information, and this brings us to the second division of the advertising department's work—the booklets and other "follow-up" material prepared.

**Booklets and
"Follow-Up"
Material**

This literature, intended ultimately to cover every phase of building and every use of wood, was designed to be genuinely informative, authoritative and helpful. Whenever technical subjects were treated, the department enlisted the services of recognized authorities—engineers, chemists, architects, foresters, building contractors, painters, in and out of the Government service. The purpose was not only to familiarize the public with the superior qualities of Southern Pine but to teach how to use Southern Yellow Pine intelligently.

Since the work of the Association advertising department began something over a year ago more than sixty separate pieces of advertising literature have been prepared. This material ranges from the small "Red Light," which you doubtless have seen, to the revised Southern Yellow Pine Manual with its hundred odd pages of scientific data, and the report of the Association's annual meeting at New Orleans last February, a book of 208 pages. Numbers of these books and pamphlets have run into several editions, so that the number of all forms of literature distributed to the public exceeds a total of 780,000. And it should be remembered that this distribution has been made with the most careful discrimination—not a booklet or a pamphlet was sent out until there was evidence it would reach a worthy destination, in the hands of a "live prospect."

**Many Subjects
Treated in
Many Publi-
cations**

In the Association campaign to promote the use of Creosoted Southern Yellow Pine wood blocks, three booklets have been issued and widely distributed. Two of these have to do with blocks for paving—on city streets, and in the vicinity of churches, hospitals, schools, hotels, etc., where a noiseless pavement is particularly desirable. The third wood block booklet deals with wood block floors for factories, foundries, mills, machine shops, docks, etc. There is abundant evidence that these booklets have

**Booklets on
Wood Blocks**

brought important results in influencing municipal^a authorities, hospital and school boards and builders of industrial establishments to adopt wood block pavements and floors. Of the two booklets on pavements—"What the Cities Say About Creosoted Wood Block Pavements" and "Noise, the Nerve Wrecker"—approximately 15,000 each have been distributed, the former going to municipal authorities and the latter to hospitals, etc. "Floors of Service," the third booklet of the creosoted wood block series, has been used to take care of inquiries brought by advertisements in factory and other industrial publications. Something like 10,000 of these booklets have been distributed to owners of manufacturing plants, terminal companies, etc.

Of the technical booklets issued for general distribution one of the most valuable is that entitled "Directions for Finishing Southern Yellow Pine." This was designed to correct the more or less prevalent impression that Southern Yellow Pine will not take and hold paint satisfactorily, and therefore is unsuitable for fine exteriors and interior finish and trim. The specifications for painting, enameling, staining and varnishing printed in this booklet were the joint product of the foremost painting experts in America, including the government authorities. They show not only that Southern Yellow Pine is perfectly suited to the most exacting uses for exteriors and interiors, but also give explicit directions for finishing, including instructions for treating Southern Yellow Pine edge-grain floors. Aside from the pronounced influence this booklet has exerted among home builders, it has been an eye-opener to hundreds of retail lumber dealers, architects, building contractors and painters who have been laboring under the delusion that your product is "a hard wood to paint." The "Directions for Finishing Southern Yellow Pine" is one of the Association publications we would especially recommend to the perusal of you gentlemen, who doubtless frequently hear that time-worn knock on the material you are selling.

Of all the publications prepared by the Association's Advertising Department mention of the most important from the standpoint of the manufacturer's salesman has been left until the last, partly because this material has to do with the third general division of the Advertising Department's campaign—the Co-operative Service for Retail Lumber Dealers.

This service has been designed not only to assist the retail dealer in his personal efforts to increase his lumber sales in his

territory, but to inform him fully as to the Southern Pine Association's activities in promoting and increasing the use of Southern Yellow Pine. The offer of the Association service was made to the dealers through the retail lumber trade journals, and this was followed up by sending to some twenty thousand dealers a booklet specially prepared for them and entitled "The Dealers' Handbook of Southern Yellow Pine." This booklet gave a summary of what the Association was doing in a publicity way, mentioning the variety and character of publications used for display advertising, enumerating the various pieces of literature issued and distributed to the consumer, and telling what this literature contained of an educational character. Through this booklet the Association offered the dealer a free service of electrotyped advertisements, complete with his firm name, for his use in advertising in his local newspaper; free plans and lumber bills for dwellings and numerous farm buildings, including barns, bins, hog houses, sheds, garages, poultry houses and smaller structures; free folders and circulars suggesting special uses for Southern Yellow Pine on the farm and in the home, these to be supplied in any quantity and to be distributed to his trade by the dealer. The handbook also contained a number of form letters for the dealer's use, to be copied and sent out in circular form to his trade.

A Most Important Aid to Salesmen

About 400 retail dealers have taken advantage of the offer of free advertising cuts for use in their local papers. The first of these cuts was in a series of twelve, and many of the dealers used all of them, some repeating them one or more times. Twenty-five states were represented in the use of cuts by dealers. Of the house and farm plans 120,000 have been distributed, and of the folders and circulars dealers have ordered and sent to their trade more than 160,000. This literature for dealer distribution has recently been added to by the publication of a booklet of thirty-two pages, entitled "A Hundred Handy Helps," which contains, as its name implies, one hundred suggestions, illustrated, for home-made conveniences and labor saving devices that any farmer may make of Southern Yellow Pine. This booklet, bearing the dealer's name on the front cover and his own advertisement on the back, is supplied at cost, which in quantities amounts to something less than 6 cents each. Numerous dealers already have signified their desire to obtain and distribute large quantities of these. The literature of this character will be added to from time to time, the series

Four Hundred Retailers Used Cuts

**The Service
to Be
Extended**

of advertising cuts for dealers' use will be extended, and the co-operative service increased and elaborated. In its effort to foster the spirit of co-operation between the Southern Yellow Pine manufacturer and the retail lumber dealer, the Association recently entertained at Southern Yellow Pine mills, representatives of a number of retail dealers' associations, giving these visitors an opportunity to study methods of logging, and the manufacture, grading and shipping of Southern Pine. That these dealers were impressed by what the Association members were striving to accomplish in eliminating misunderstandings and disagreements between manufacturer and retailer was evidenced by the visiting dealers asserting, unanimously and entirely on their own initiative, that their future business would, when possible, be given to manufacturers identified with the Southern Pine Association.

**Special
Articles
Boosting
the Industry**

The fourth division of the Association's publicity campaign—the dissemination of special articles concerning Southern Pine and the Southern lumber industry—has been unique in the annals of advertising in some respects. We all know that the attitude of the public prints toward lumber and lumber industry has been anything but friendly in years past, judged by the thousands of uncomplimentary and harmful statements that have found their way into print. Newspapers and magazines of wide circulation and influence seemed to take a vicious delight in maligning lumber, glibly referring to the "lumber trust," "the exorbitant prices charged for lumber," "the devastation of the forests by the ruthless lumber interests," "the reckless fire hazard in building with wood"—all of the misstatements and abuse made familiar by constant repetition. A friendly comment about the product or the industry was so rare as to be sensational, to lumbermen at least. So persistent and long continued had been this attitude of publishers that every one connected with the lumber industry had concluded that the press was unalterably "agin" lumber.

**Little Malice
in Printed
Attacks**

The Association's advertising department early in the publicity campaign undertook to remedy this state of affairs, at least in some degree. The results were surprising. It was found that many newspapers and magazines were antagonistic to lumber solely because that attitude seemed the popular and proper one; others gave space to unjust abuse of lumber because no one had ever appeared to defend lumber. The Association advertising department soon was convinced that there was little malice in the printed

attacks on lumber so far as the publications were concerned, and that editors were just as willing to print pleasant things when they came from a dependable source.

The consequence has been that hundreds of educational articles friendly to lumber and the lumber industry have been placed with the most influential publications in the country in the last fifteen months. These articles have appeared in newspapers, popular magazines, architectural and engineering journals, trade papers, religious weeklies, representative farm papers—practically every class of publication in circulation. Some of the articles contained only indirect reference to Southern Yellow Pine and were designed with the sole purpose of creating a friendly feeling for lumber and the lumber industry; others could not have been more definitely advertisements of Southern Yellow Pine if they had been set in display type and run as paid advertising.

**Hundreds
of Friendly
Notices Used**

In conclusion, I hope you lumber salesmen will permit me to urge upon you the importance of the Association's advertising campaign to you, individually and collectively. I don't know whether you gentlemen have read the publicity literature issued by the Association or have noted closely the display advertising and special stories placed in the various classes of publications. If you have not, the subscribers to the Association—your employers and mine—are not getting full value from us in organization team work. This publicity material is designed to assist each and every one of you in selling lumber, it is paid for by your employers, and if you do not keep in close touch with it you cannot reap the full benefit from it. Every statement made in Association advertisements, every technical point brought out in the various booklets and pamphlets issued by the Association, every feature of Association service for the retail dealer, is a selling argument for the product of your mill.

**The Importance of
Advertising
to Salesmen**

In this last feature alone—that of co-operative service for the dealer—you have a talking point of which the importance cannot be overestimated. The members of the Southern Pine Association—your employers—are responsible for this service. The dealer should realize that the Southern Pine Association is working harder and spending more money than any other organization in America to increase his lumber sales. The Association not only is supplying him with a free advertising service, including

**One of
Your Best
Talking
Points**

cuts, booklets, plans, pamphlets, folders, form letters, etc., but it is buying space in the highest priced publications in the country and through them teaching consumers in his territory the intelligent use of Southern Yellow Pine, suggesting new uses for lumber, stimulating business—sending trade to *his* yard. Southern Pine Association chemists are studying wood preservation, fire retardents, the fungi and insects destructive to wood, for *his* benefit. Southern Pine Association engineers are testing southern Pine under all conditions of service and establishing accurate grading formulas to *his* advantage. Southern Yellow Pine architects are drawing plans for homes, farm buildings—wood structures of every description—for *his* use and profit. Representatives of the Southern Pine Association are fighting anti-shingle legislation, participating in city paving campaigns, distributing literature at county fairs, conducting exhibitions at builders' conventions—all to the end that the retail dealer's business shall be protected and increased.

These things should be impressed upon every retail lumber dealer in this country—and you gentlemen certainly will find it to your advantage to hammer in that impression, to talk Association service to your trade insistently. That will be possible, however, only in case you are yourselves familiar with just what this Association co-operative service is.

The Density Rule

By J. E. Jones

Chief Inspector, Southern Pine Association
New Orleans, La.

The subject of this paper is the so-called "Density Rule," but that my position may be readily understood, will say that I am not an engineer, therefore my remarks will be along the lines of an inspector rather than that of an engineer.

A rule for the inspection of Yellow Pine timbers for structural purposes where strength is the greatest factor has been a long sought necessity. The standardization of the manufacture and grading of Southern Yellow Pine originated about twenty years ago in the Southern Lumber Manufacturers' Association,

Work for
the Retailer's
Benefit

The Origin
of Standard
Grades

which organization was succeeded by the Yellow Pine Manufacturers' Association and then by the Southern Pine Association. These organizations were always in the lead in this work, but during this time the standardization of manufacture and grading was undertaken by the Atlantic Coast Association, which originated what are known as the Interstate Rules of 1905. All of these rules were based on a permissible maximum number of defects and disregarded entirely the strength and durability of the wood. Hence, we have such grades as Standard, Merchantable and Prime on the Atlantic Coast, and the old grades of No. 1 Common and No. 2 Common, in the central portion of the Yellow Pine bearing district.

These rules do not provide for the necessities of architects and engineers in all cases, inasmuch as they do not fix any strength value, and it is principally strength and durability with which structural experts are concerned.

**Old Rules
Not Satisfactory**

As a result of these unscientific grading rules it has been difficult to procure a satisfactory material, having a dependable and uniformly measureable strength.

The term, "Commercial Long Leaf" is often used in specifications for structural material. The employment of such terms as "Long Leaf" and "Short Leaf" in an effort to segregate quality classes is not only ineffective, in view of the fact that there is a very wide and over-lapping margin of quality in the several Southern Pine species, but also leads to considerable confusion and loss of money in cases under dispute, since it is practically impossible to determine the species from a visual examination of manufactured timbers; the only absolute method for the determination of the different species is by microscopical examination which involves too much labor and expense for general use by lumbermen.

**"Long Leaf"
and
"Short Leaf"
Confusing**

Realizing the necessity for the determination of the strength bearing qualities of the various types of timber the U. S. Forest Service undertook a series of tests calculated to establish the fact that the strength of Yellow Pine is dependent upon its specific gravity and density, or rate of growth. The Forest Service proceeded upon the theory that any grading rules which it might recommend, based upon this premise, should be simple, while at the same time they should exclude all material that should not be used in mill construction with the fiber stress recommended for the grade, while not excluding more than a reasonable amount

**The Forest
Service Sought
Simpler Rules**

of material properly belonging in the grade, from the standpoint of strength.

It was found from extensive tests that the strength of wood depends upon its density, or rate of growth, defects and moisture content, and as the specific gravity or dry weight increases, the strength also increases in a fairly uniform manner.

The factor of density is determined by making use of the varying proportions of summer wood and spring wood, or hard and dark rings as compared with the light and soft rings, of the different timbers. It was therefore decided to establish, as the requirements necessary to comply with the rules, six rings per inch, with one-third summer wood; pieces having less than six rings per inch may be accepted, provided the summer wood is one-half or more.

It would be entirely impractical, from standpoint of time, for an inspector to consider a whole cross section in estimating the density of summer wood in the larger size timber. It would also be impossible, in a large number of cases, for him to accurately estimate the summer wood in the whole portion of the piece, on account of the fineness of the rings in that portion of the timber lying nearest the bark. In order that this difficulty might be overcome it was decided to use for estimating the summer wood, the zone including the 3, 4 and 5 inches from the pith center. This portion is the most easily measured or estimated and fairly represents the entire cross section. Measurements were made of 200 trees selected by the forest service from various places in the South. The proportion of summer wood in the 3, 4 and 5 inches average about the same as the proportion of summer wood in the entire cross section, very few trees showing any marked difference, so it is apparently entirely just to use the 3, 4 and 5 inches from the pith center as the criterion of the entire cross section of the stick.

Contrast in color of summer wood and spring wood is another prime factor in the determination of strength. It was found from numerous tests that in the heavier and stronger material the contrast between the summer and spring wood increased in proportion to its strength. The contrast may be classified as sharp, medium and poor. Material of medium or poor contrast of color between summer and spring wood should not be admitted where greatest strength is required, unless the proportion of sum

**Determining
the Factor
of Density**

**Choosing an
Area for
Measurement**

**Color in
Summer and
Spring Wood**

mer wood is considerably in excess of the minimum requirements.

The density requirements for first grade select structural material then becomes six rings per inch with one-third summer wood in the 3, 4 and 5 inches from the pith center. Wide ring material not coming within this rule may be accepted, provided the amount of dark or summer wood be one-half or more.

Modifications for this requirement are provided for in the grading rules, where the pith center is not contained in the stick measured, or where the material is comparatively a small cross section.

**Modifications
of the
Requirements**

Parenthetically, it may be said that some dealers, through selfish motives, have sought to evade the explicit requirements of the "Density Rule" by counting the individual ring of spring and summer wood as indicating total annual growth—that is, one ring of either representing a year's increase; whereas, as a matter of fact, one ring of summer wood and one ring of spring wood taken together should be counted as one year's growth.

**An Effort to
Misconstrue
the Rule**

It will be noted that this measurement of strength makes no distinction between the botanical species of Southern Yellow Pine. The tests have shown, as a matter of fact, that there is no difference whatever in strength qualities when the material shows the required density of growth. Therefore, it is entirely possible for timbers of short leaf or loblolly pine to possess the measure of strength requisite for ordinary structural purposes.

**Botanical
Species Not
Considered**

The dependability of this measure of strength was thoroughly established by the forestry department before it was given publicity. The American Society for Testing Materials had already devoted much time and study to the problem of accurately grading structural timbers for strength qualities, and that organization was quick to realize the practicability of the Forest Service rule, and after a thorough analysis of the rule gave it its formal adoption as standard. The engineers of the Southern Pine Association also quickly recognized its practical value and placed their endorsement on it. The simplicity of the rule has since won the unqualified approval of many of the foremost structural experts of the country.

**Formally
Adopted as
Standard**

The Density Rule has been accepted and endorsed by the American Railway Engineering Association, the Illinois Society of

Architects, by the New Orleans Dock Board, by the U. S. Navy Department and various building code commissions.

**The New
Rule Received
with
Enthusiasm**

The new rule has been brought to the attention of architects and engineers throughout the country through the advertising of the Southern Pine Association, and it has been enthusiastically received by the professional builders everywhere, as providing the first accurate and practical method ever devised for determining, with ease and certainty, the actual dependability of Southern Yellow Pine Timber required to sustain definite loads.

**The Rule
Eliminates
Guesswork**

The Density Rule removes Southern Yellow Pine structural timbers from the class of speculative material, and provides a measure of strength value that eliminates guesswork. It is a recognized fact that the type of building construction known as "Standard Mill" possesses advantages not equaled by any other type of construction when used for factory, warehouses and other commercial purposes. These advantages are economy in cost of construction, and a very high degree of fire resistance when built and equipped with automatic sprinklers, as specified by the Associated Factory Mutual Fire Insurance Companies.

**Mill-
Constructed
Buildings
Are
Flexible**

One of the greatest advantages of this type of construction is that such buildings are flexible; they can be easily altered for different kinds of occupancy. This fact was clearly demonstrated in the demolishing and rebuilding of the Albert Dickinson Company's warehouses in Chicago. Every piece of Southern Yellow Pine was re-used in the new building after having been in use in the old building for more than twenty years.

The Density Rule is a guarantee to the architects and engineers that their specifications will be carried out; the more definite it is possible to make grading rules or the closer it is possible to classify structural material from the standpoint of strength, the more satisfactorily it can be used by the engineer and the more likely will be the producer to obtain a reasonable price for his product.

**Mixed Timber
Quality Hurts
Prices**

The mixing of timbers, varying in strength, of course, makes it necessary for the engineer to design on the basis of the weakest material he is liable to find in the lot, and on that basis he is only willing to pay the price of the weakest material.

The uncertainty attending the use of timbers in the past has often established a prejudice against their use, and in instances where, had the element of uncertainty of quality been removed,

every consideration of economy, adaptability and service, naturally recommended the use of timbers.

Is it then any wonder that the Density Rule should strongly appeal to the engineers and architects? The simple, effective and accurate standard of measurements of strength, by which the designer of a structure may protect himself from future criticism, because of failures due to material lacking in the qualities they were reasonably expected to possess, must be a source of gratification indeed, to him.

It must, however, be borne in mind that the Density Rule is a measurement of strength only, and has no reference to durability. Where durability is of gravest importance consideration should be given to the heart contents of the material used.

**Density Rule
Measures
Strength Only**

In closing these few remarks I wish to say to you gentlemen, as salesmen, a great responsibility rests upon you and a great field of endeavor lies before you. Acquaint yourselves with the product you are handling and let your efforts be to supply your customers with the material best suited to their needs. Select structural material as recommended by the Southern Pine Association is intended for use where greatest strength is required. In specifying material the advantages connected with the use of commercial grades should be considered and the commercial grades adhered to as long as it is certain that material selected under such rules will meet the requirements.

The Lumber Salesman *and* His Possibilities

By Capt. J. B. White

President, Missouri Lumber and Land Exchange
Kansas City, Mo.

I am mighty glad to see such a large and intelligent audience before me. I wish I were equal to the occasion. In a certain sense I have come back. The last thing I remember when I passed on was that a number of us were condemned, sentenced and fined for a large sum of money for advising curtailment, and for attempting to agree upon some efficient plan, because either that we were not understood or that our attorneys did not understand the law. What I said was intended to be in the interest of national conservation of timber resources. And I said no more—and I didn't say it as well as it was said to you by General Boyle here today—but unintentionally violated a state law. He told you that you ought to save the trees; you should save the lumber; you should practice economy; think of the marketing of a large part of the product in the utilization of the waste; and that you should see that there was more still coming for future generations; in short, that you should curtail your extravagance, which applies to lumber men who are here today; to those who are not lumber salesmen, but who are manufacturers and owners of the forest.

Now, times are changed; surely times have changed since I was on earth before. (Laughter.)

Now, gentlemen, my subject is, according to the program, "The Lumber Salesman and His Possibilities." I shall stick pretty close to that text, because I remember that down in the Ozarks where I came from there was a Baptist minister, a young Baptist minister, who had been to college and had taken his degree, and came to the Ozarks, and didn't preach exactly as his predecessor had preached. He lectured, in a way, he illustrated, in a way, from common things; and one day a committee called on him and said: "Now, the brothers and sisters of your flock here, they like your lectures; they like the way you talk; they like your illustrations; but they have been in the habit all through their lives of having a text given them, and the preacher keeping to his text. Now, they don't want you to be offended. They like you, but they wish that you would give them the text and then stick to

Captain White
Has "Come
Back"

Setting the
New Minister
Right

it." So he stated that he would try to conform to their wishes, and at the close of that meeting he stated, "My subject next Sunday will be, 'You can't keep a good man down,' and the text will be given at the beginning of the service next Sunday, and I will try to stick to my text." The next Sunday came, and a great many people went to church because they wanted to know what text in the Bible would refer in the remotest way to the thought that you couldn't keep a good man down. He had a larger congregation than ever, and he said, "My subject is, 'You can't keep a good man down.' My text is, 'And the whale swallowed Jonah and spewed him up on dry land.'" (Laughter.) Then he went on with a very eloquent sermon, and it was correct, because the text was correct, and because the text related so closely to his subject.

Now, my text is, "The Lumber Salesman and His Possibilities." There are a great many possibilities for a good lumber salesman. The only question is, are you salesmen, or are you just order takers? Now, I believe that you are salesmen. I have a way of telling. I have a way of knowing. You can tell by the way I have selected my salesmen. There are twenty of them right in here (laughter and applause); and I can pass the same compliment all around, I believe. Now, a salesman has a great many trials; he has a great many possibilities. For, in every work in life where there are trials there are great possibilities to overcome those trials; so that it is an axiom that wherever you have great trials and perplexities you will have great possibilities in proportion to your trials. I honestly believe that every good salesman is a real honest, good, Christian man, for I don't believe it possible for a man to go out and succeed through life as a salesman unless he is a real good man; and I believe that when you come to St. Peter's gate you will be asked what you were here on earth, perhaps not in these same terms and not as given to the candidate yesterday afternoon who passed such a creditable examination, but you will be admitted because you have been, as you will say, a yellow pine salesman on earth. St. Peter will say to you, "Just step in. Take a seat a little above the men you have been working for, for you have had your hell on earth." (Applause.) Now, I think that is very true. I think that the men that you are working for ought to be here today and look right in your faces; and if they were here today they would not humiliate you, they would

Possibilities
for the
Lumber
Salesman

The Salesman
at St. Peter's
Gate

not discredit you when you, so hopefully and cheerfully, in the morning go out to get orders, loyally working for your employers. If they could look into our faces now they never would embarrass you by putting a hundred cars in transit the next day.

A Voice: You are right! (Applause.)

Captain White: They send you out to do their work; and the reason that you are not closer to your employer is because your employer did not grow up from a salesman to be the owner and manufacturer of his forests. He grew up from a retail lumber dealer; and there is a great deal of difference in the mental attitude of a salesman who is trying to sell to the retailer and that of the retailer who is buying of the salesman. They are antipodes; they are at sword's points, so to speak; but it is true; and you can think of a good many of them that have gone from the retail to the manufacturing business. The largest mills in the country, you take the Fullerton Lumber Company, the Long-Bell Lumber Company, and you needn't excuse me; I was a retailer who got to be a manufacturer—and there is naturally a little difference of mental attitude between the retailer who has always been buying from the salesman, and then when he finally gets into manufacturing and owns a mill, he looks with a little different attitude than he would upon his salesmen, because he has never been a salesman. He doesn't know the trials; he doesn't know the psychological requirements in a salesman, and you don't always get the proper support; naturally, he don't give you the support that he would if he was in closer touch with you. Now, this doesn't apply equally to all retailers, to all manufacturers; it applies more to some than it does to others; but in a sense it is true. Why, I had some salesmen out, and there was 150 carloads of lumber let loose in transit from other mills all bearing one date, just as my salesmen were getting ready to do some business over in the east here. Now that, of course, lowered the price. A great many of the dealers would say, of course, "Here is a lot of lumber offered me, in transit here, so and so; you can see what it is right here; so much of this; so much of that," and it lowers the price, even if he don't buy; but if he does buy at a lower price, it has certainly lowered the price in that locality. And the law is such that you can't find out anything about where this lumber came from. In many cases your own employers put that lumber in transit. That is a fact. (Applause.) And you know it. You should be better supported at home. (Applause.)

The Manufacturer a Former Retailer

Lack of Support for the Salesman

Now, I don't know what all the things are that are necessary in a good salesman. We saw a list of the requirements last night, that Mr. Woodhead passed. Now there were twenty-three—twenty-three questions necessary to pass 100 per cent efficient. That is a sort of a skiddoo number—twenty-three. (Laughter.) And I would cut it down, in order to give them all a chance, and I think it would be just as hard for us. I would take two, the first two—health, energy and industry; I would then take courtesy; I would then take truthfulness and honesty; and then I would take wisdom, love and courage; and if I cut out the first four I would leave wisdom, love and courage. I would not have more than seven. As the fellow said when he went fishing: "Some people take a medicine chest, but all I take is a box of pills and a jug of whiskey." I would not be burdened with so many definitions. It makes it hard for the infant class. (Laughter.) Not many people would pass as the candidate did yesterday. (Applause.) And one of my best salesmen came to me this morning and said, "I don't know about that examination. Do you think it is possible for a man to be 75 per cent efficient?" "Well," I said, "of course it is by comparison, efficiency largely is. He might be 75 per cent efficient, as compared to some other fellow; or he might be 81-1/3, or something of that kind"—as I think that was the correct figure that Mr. Woodhead passed on yesterday. But, wisdom, love and courage; I think that if a man is wise, and then I think that if he has got love in his heart for his fellow man and wants to do right that he will get up in the morning and he will do right all day. My salesman this morning said that he was a little discouraged, because it took him three times to land a man. He went out the first time in the morning and saw him and couldn't sell him a car; and went for the second time; and he was discouraged, and said, "I wonder what is the matter with me; what on earth ails me? I ought to land that man." So he went back the third time in the afternoon, with more courage, more persistence and with a whole lot of love for the welfare of that man, and he landed the order. So, don't show your discouragement. I think that a man can go into a lumber yard a good deal like this, with full confidence and courage and wisdom as to what was best to do, thoroughly wise in regard to his lumber knowledge; and the salesman fully fortified with love and courage would say, "Mr. Smith, let's walk out into your yard." And he would walk out

**Cutting Down
Efficiency
Factors**

**Landing an
Order After
Three Tries**

**Making It
Easy for
Mr. Smith**

with Mr. Smith, and he would say, "Well, now, I see you are short on 2x4—16', and he marks it down; and goes along, and then there is some ceiling; "you need some ceiling, too. Is that all you have got there?" And he marks it down. He goes along, and "Here; is this all you have got of this vertical grained flooring?" And Smith indicates that it is. He don't give Smith much time to talk as he puts it down. And he says, "You keep your yard up in elegant shape. I never saw a better shed, and things kept up so clean; no litter at all; and, by the way, I see you need some finish." And then he says, "Now, Mr. Smith, just sign your name right here." Well, if you have got that ability to go around and size up the needs of your lumber man and ask him to sign his name right here, he might stare at you a little bit, because it is unusual; but you might do it. If you don't do it to the full degree you might to a certain extent, because it requires your knowledge of your own stock and your knowledge of the needs of your customer, and it requires a man to be in all respects at all times a perfect gentleman. He can't take a drink of whiskey to fortify himself to go down and meet that customer. That never did it in the world, and it don't keep the customer very long if you are leading him into the saloons to treat him, if he is one of the kind that drinks, because drinking is getting unfashionable, and he begins to think that you are not fully the gentleman that he thought you were. He don't feel honored. He don't feel really honored by your company. I think the best salesman is the man that his customer is glad to see him socially. He won't keep him out in the front office an hour and a half waiting for him to get through some unimportant detail. He will be glad to see him. He wants you to go out to dinner with him, or invites you to his house. He wants to show his appreciation and friendship, and it is a pretty good thing for the salesman to be pretty well informed on the fads and outside work and interests of his customer. If his customer is raising chickens he wants to be able to ask intelligent questions about those chickens. He wants to say, "Look here! You don't keep your chickens in a steel or one of those cement chicken houses, do you? I never knew a chicken to be kept in one of those houses without he came down with the pip. He gets cold. And people are finding that out now. Cement is the greatest thing to produce disease in chickens, in cattle and in hogs. Now, a neighbor of mine the other day lost a cow feeding ensilage

**Drinking Is
Becoming
Unfashionable**

**Meeting the
Customer
on a Social
Basis**

out of a cement or concrete silo. The acid from the ensilage formed a chemical combination with the lime or material the silo was made of from the product that was put into the silo, and he lost the cow—a very valuable cow.” Well now, these things can be dropped incidentally because they are true. There is lots of it being done, just lots of it that is true. Well, incidentally I will say that this part of my subject was verified the other day by going onto a farm eight miles from Denver, kept by the man who owns the Shirley Hotel, owned by Colonel Dodge. I went out to see Colonel Dodge, and there was a great big silo that had fallen down. He said, “I don’t know what is the matter with that silo. It has fallen down. And I am furnishing the city with milk.” I said, “You ought not to have had a concrete silo. You ought not to have had it in the first place.” And he said, “I bought it when I bought the farm.” I then told him that a concrete silo wasn’t good for dairy cows. I asked him a great many questions and then I told him, so that he felt I was getting a great deal of information from him, which I was. I think every salesman should have enough knowledge of any subject connected with his business so that he can talk to his customer of it, so that he can ask intelligent questions, and if he has that knowledge he can so ask them that he will bring results largely his own way.

**Teaching a
Dairyman
About Silos**

Now, I don’t think that I should say very much more. I want to hear what is going to be said in the general talk which you are to have here today among yourselves. I believe very much in good salesmanship. I think it takes the best men. Now, some may be good salesmen, but maybe you ought to be selling millinery goods. (Laughter) There is quite a difference between a salesman that sells millinery goods or boots and shoes, and one that sells lumber. It takes a man to sell lumber. So far as I know you are all men. (Laughter). But I have seen the other kind. I think I have been pretty successful in selecting men who are equal to the emergency. I have one salesman here—I won’t call his name, because it would make him too notorious—the same as I didn’t call the name of the other gentleman who asked me the questions this morning—but I have one gentleman here who prides himself being equal to most any occasion and adapting himself to the customer. His adaptability is such that when he first began in my employ he had been a lifelong Repub-

**“It Takes
a Man to Sell
Lumber”**

**A Salesman
Who Adapted
Himself**

lican, but he adapted himself very quickly to the Democratic party, took care of a campaign for a few months, and elected the man we wanted to Congress. We couldn't elect a Republican, so we elected a Democrat. And he ran that thing, and they didn't find out he was a Republican for a year, when he voted again; but they didn't have any kick coming, because he did them good service. And so he adapted himself very much to the customer in that way; he sympathizes with the customer. If the customer is a Democrat, he doesn't have any trouble over that. There is a great deal that might be said that is really good for the Democrats. (Laughter and applause.)

**A Leader
in Selling
Short Lengths**

Now, he will sell short stuff. He manages to sell them, if sixteen foot flooring is wanted, he manages to sell a great deal of twelve and fourteen and ten. He really does, without any disparaging insinuations against any of the twenty other good men that I have here today—but he does beat them all on short lengths. I don't know how he does it, but he does it; and sometimes they will beat him in perhaps some other things. There are no two men who have exactly the same qualifications; and unless they have about all the qualifications, when a stranger comes into my office and gives his experience and all, and then if he has a long nose and prominent chin, he will do, but a short nose and retreating chin, I assign him to the millinery class. (Laughter.) You have got to have some guide to go by. I am so glad that you have those rules to go by now; and all I have to do when a man applies to me for a position is to ask him about seven of the most important of those questions.

**Wood Taber-
nacles Only
for Billy
Sunday**

Now, Billy Sunday has been to our place. He won't have anything to preach in excepting a wooden tabernacle. And he is going to Boston next, and they were going to do something nice for him. They were going to put up a great, big brick tabernacle, and he said he couldn't accept it; he couldn't preach in it; the acoustic properties were such that he couldn't speak in it; and so they are putting up a wooden tabernacle for Billy Sunday in Boston. There are so many things that wood will not permit of having a substitute for, and we are learning them, and our men are going to talk to customers on the uses of wood on the farm and elsewhere. There will not be so much cement used on the

farm ten years from now as is being used now. (Applause) They have advertised and they have told the farmer in almanacs and in newspapers and in every way that they could get that subject before him, of concrete for this and concrete for that, and he is using concrete for almost everything. I went to a farm the other day. It looked to me like there wasn't a bit of wood there. I know there will be, in about ten years, because that man has built everything out of concrete. He has got fence posts all over his farm of concrete. And some day there is going to be a breaking away from concrete on that farm, and a little later we are going to come into our own. We are passing through this stage of evolution, and if we will inform ourselves thoroughly, go to schools like this and have training and reading at home, and keep up this good work and meet frequently with each other, you salesmen, when you get together—are going to have an easier time because the manufacturer is going to stand by you. He is going to find out that it is necessary for him to be very close to his salesmen. It is going to be necessary for the manufacturer to go around more than he has done, and get close to the customer that buys and close to the salesman that sells.

(Prolonged applause.)

The Use of
Cement Will
Decline

Public Sentiment *and the* Lumber Salesman

By Gen. L. C. Boyle

Special Counsel for the Southern Pine
Association
Kansas City, Mo.

Mr. Chairman and Gentlemen:—One of two things have been made quite clear to me today. I have an old gardener down in Kansas City who works for me—old John. John has a perpetual bun on, and I wondered how he could stand it. I now understand that if you want to preserve things you have got to keep them ing ground in every state, gentlemen. We can't handle the stuff soaked all the time, or not have them soaked at all. (Applause). That is the reason prohibition is gaining ground in every state, gentlemen. We can't handle the stuff satisfactorily

unless we are at it all the time—get properly pickled, and cured and preserved; and if we nibble at it, why then we decay. So you see, we can't handle it at all and keep on our jobs. (Applause.)

Another matter, which deals with the ethical side of life, has been made also quite clear. I now know, gentlemen, why you, during your visit here in St. Louis, when you would pass a street corner, and a little gust of wind would happen to come, and a pretty girl was crossing the street, why you would stop, look and listen. I know now why it is. It wasn't because you were anxious to find out the contour of the ankle; not at all. It was because you wanted to find out whether she was patronizing yellow pine, hemlock, or cedar. (Applause.)

When I met Mr. Rhodes the other day at Washington, where I was up on your business, in fact, because it is but one industry, no matter what part in it you perform, or function, it is one great industry—I was up there working for and trying to get something for this industry, and he asked me if I could arrange my time to come here and talk to you men, and I was glad of the opportunity, for, gentlemen, after all it matters not how much they may improve the mill; it matters not how much they may develop and perfect the machinery for the making of boards; it matters not how fine the trees have grown, or how straight and tall and splendid they are; all of these is as nothing if at your end of the line there is not a live wire. You have got to have salesmen, gentlemen, or the lumber business would go off of the map, and you are one of the great, important functions in this industry. Now, I am not familiar with the technique of salesmanship. I am not here to advise you how to sell lumber. You know more about that in a minute than I could learn in a year. That is your business. But there are some things that I might be able to say to you that would interest you, because in every walk of life nowadays it seems we have got to know something about everything—round out our minds, as it were—because the world is growing smaller every year, we are getting closer together, and it is essential that we know more each year.

It has been a habit in this country to condemn things because they are big. Big business has been thought of as bad business. The successful man has been only too frequently looked upon as an evil doer, and not an aid in the nation's building. Now, that is due to a wrong mental attitude. It is due to the fact that in

Which
Wood?

The All-
Importance
of the
Salesman

times past a few industries were being exploited, to the disadvantage and the hurt of the public, because a few men had put their hands over those industries and were willing to take selfish advantage of power. But because a few men have done wrong is no reason why all business men should be tainted by that statement. We have 250,000 business concerns in this nation; 250,000 corporations and partnerships engaged in various lines of business. That does not include banks; it does not include railroads, it does not include public service corporations, but purely business concerns. Gentlemen, do you know that 100,000 of those 250,000, that their ledgers show during the last year that 100,000 of them are in arrears? Do you know that only 60,000 of the 250,000 made over \$5,000 a piece? A few of the 60,000 made many millions. The part I want to get at, however, is this: That because a few great corporations like, we will say, for instance, and by way of illustration only, the steel corporation that controls 40 odd per cent of all the steel products of the nation—a great institution which the courts have said is a legal institution—now, because some man should feel that no one great concern should control practically 50 per cent of any one product in this nation is no reason why all business concerns should be handicapped and prejudiced by that kind of economic theory.

**A Wrong
Attitude
Toward
Business**

Now, I want to give you a thought here touching the pride that you ought to have in this industry. I want to couple with my thought the work that the Southern Pine Association is doing for the benefit of the industry and for the glory of the nation, if you please. Gentlemen, there are something like forty odd thousand sawmills making boards in this nation. The sway of this industry reaches from the lakes to the Gulf, and from the Atlantic to the Pacific. In thirty odd states lumber is manufactured. In fifteen states it is a prime industry. In five states it is the vital industry. Now, mark you! Take yellow pine, hemlock, and fir by way of illustration, and they are competitive woods. The yellow pine salesman is in competition with the hemlock salesman and with the fir salesman, each of them describing the merits of their particular wood. Fir comes from the far Pacific, from Washington and Oregon, on a long distance freight haul of thousands of miles. Fir competes in this middle western country of ours, where the great markets exist, with yellow pine, which is closer to them; with hemlock, which is still

**Why Lumber
Men Should
Be Proud
of Their
Business**

**Entitled
to Farmers'
Help**

closer. Now, what I want you to understand is this: That this great industry, comprehending so many units of manufacture, is the prime industry in the nation. (Applause.) It employs over 700,000 laborers. When you go to the country towns, my friends, selling the retailer, who is depending upon the farmer's trade, I want you to have in mind the fact when you are chatting and exchanging gossip with your friend the rural retailer—I want you to take occasion to impress him with the fact that he can tell his farmer friends, that this industry buys more farm produce from the farmers of the nation than any other industry operating in the nation. (Applause.) Let each of you make it plain to the farmers, through the lumber retailers in the rural communities, that this industry is entitled to the moral and active help of the farmers of this nation. There has been a prejudice abroad in this nation, that lumber was in a trust. I wish that question could be tried out before a lot of salesmen of these manufacturers. (Laughter and applause.) I hope, and of course, I know that the good newspapers of this fine city of St. Louis, that have been giving you such splendid publicity—I hope that they will challenge their people to this thought, that there has existed in this country for years an absurd fallacy, to-wit, that there was a great lumber monopoly; that the lumber barons had their hands over the lumber manufacturing situation of this nation, and were dictating prices. I trust, gentlemen, that some man with imagination and a vivid pen can portray the fact that here you sit, five hundred salesmen representing competing manufacturers; and the thing you are trying to learn is not how to compete more, but how to compete less. (Applause.) In the nature of things there could not be a lumber trust. There are too many mills, there are too many trees, the spread of the industry reaches over too great an area.

**A Lumber
"Trust"
Impossible**

Now, my friends, I can only touch a point here and there. I have no prepared paper for your edification. I only wish I had had time to give this matter thought, so that I could have said something to try to assist you as salesmen. For instance, I had a little evidence of it in my hotel here this morning. I wanted to go to talk to my home in Kansas City. I called up from my room. The young lady at the phone said, "We do not connect with the Home phone system in Kansas City. This is the Bell phone." "Well," I said, "I am sorry." "But," she said, "Mr. Boyle, if

you will permit us, we will be glad, if you have a neighbor down there, who lives next to you in Kansas City, who has a Bell phone, to call them and ask them if they will be good enough to ask Mrs. Boyle to come to the phone." There was salesmanship, my friends, in its finer essence. "Of course," I said to the young lady, in my nicest voice—I hadn't seen her—(laughter). "Why, of course, you put in my call"; but, gentlemen, a college of salesmanship, all the books in the world couldn't teach that girl one fraction of it. She had it all—courtesy, politeness, willingness to serve, earnestness, helpfulness; she had the whole game in her hand.

**An Example
of Good
Salesmanship**

Why, gentlemen, do you ever think about this—talking about competition and salesmanship—some time back my family was going to leave Kansas City on a trip—my wife and children. In some way this news got abroad, and the railroad fellows found it out. There are several railroads in Kansas City. Of course we say down there that it is the greatest railroad center in the world. They say the same thing in St. Louis, and they have the same idea in Chicago, but we really have it. (Laughter.) Now, what happened? To the little point of destination from Kansas City, it was one price; there was no competition in price. It was absolutely one price. The service was practically the same, just as one yellow pine board is like unto another in ordinary circumstances. The train service had little selection. What sent my family over one special route? Salesmanship. This road called me by telephone; that road called me by telephone; the other road called me by telephone; but in a moment up pops a young fellow in my office himself, and he made me feel that I would be doing him a personal service if I would just send my family over his road. Gentlemen, that was salesmanship. And so we could go on, item by item, feeling that in this great world of ours, in these modern days, directness of thought, honesty of purpose, the purpose of serving, these are the master factors in salesmanship.

**Outwitting
Competition
in Railway
Service**

Now, I want you men to have a pride—and you have it; the fact that you are here manifests it—that you have a pride in your business. The great trouble with men in this world is that they get into ruts. A fellow slips into a rut and he just rolls

along forever. He sees James or Tom or Dick or Harry climbing up the mountain sides towards the heights and he envies him in his heart, and he commences to become a grouch, because a man who envies his neighbor is an unhappy man always. So in salesmanship as in following law or in a grocery store or in running a mill; a man who gets in a rut cannot get out of it, cannot keep abreast of the times. And you are not men of that type. You are alive, you are awake, you are here touching shoulders with each other, going to school, in manifestation of the fact that you are alive. Now, I want you to go back to your various fields of labor with a vision, a great, outstanding vision, and that vision is this: That you represent the leading industry in America (applause); that it employs more men, save and except one other industry, than any other industry; that is ships more freight and pays more money to the railroads of this country than any other industry; that it buys more farmers' produce than any other industry; that it deals in a great initial resource that is of essential value to the evolution and progress of humanity; that you have an industry that is the pioneer of civilization, because it is only due to the woodsman that civilization is here. Where the woods once stood we have now the farm. Those woods were conquered and the forests leveled by the pioneers—and there is one of the troubles also with that industry. I was here last night and saw those wonderful pictures. Wasn't it a wonderful inspiration, wasn't it a wonderful thing to see it—the whole manufacture of boards! Don't you know that if the boys in the country towns, that if the people of this nation could visualize what you and I saw last night, what a fine thing it would be for this industry? But did you see that little old fellow without any teeth that stood there near that circular saw, cutting up three or four logs a day? He stood there chewing tobacco and spitting over the logs that went through his saw and cutting slowly and laboriously a log. Gentlemen, that is small business. And you noticed that other great mill, or one of them—there were many—where you saw the gang saws cutting up in one operation a whole log—a mammoth, magnificent picture—with the delicacy that a watch is made. That is big business. Which of the two businesses, the little business or the big business, spells progress and glory for the nation? Oh, gentlemen, the politician has got to recognize that although the little man has his rights

Something
for Salesmen
to Remember

Small Business and Big
Business

—God knows he has his rights as well as his difficulties—but this other man also has his rights and he performs a greater service to this nation than the other one. (Applause.)

Now, you are the men that can mold public opinion. You can do more in the dispelling of false ideas touching the lumber industry than any other one influence. Why, my friends, you visit the people, and that is where public opinion resides. Become familiar with the history of the tree, know the spread of the manufacture thereof, master the details of grade and density rules, make the public understand, as you are talking to it, the value of the industry to the people, and that the thing the industry needs is less competition, and not more competition. You can do this, my friends, if you will be but equal to your own abilities. You men, bright, keen, alert, on the firing line, have the thing in your own hands. You have not always been helped as you should have been helped. The manufacturer out here is to blame when you sometimes are criticized because you can't get the right boards and the manufacturer has gummed the cards by dumping into the market an overburden of boards. (Applause.) You can't always get the price unless this co-operation back in the woods is working with you; and that is where this wonderful association, the Southern Pine Association, is doing a great service to the men for whom you work and with whom you work. This Association is bringing together these manufacturers; the men that make the boards that you sell. Now, we can't agree upon prices back there at the mill; that is against the law. We can't say, we will depress the output so as to make a rise in the price. That is against the law. But we do know this, and this Association through the genius of its secretary knows it, that if men get together and talk about their business intelligently, sympathetically, understandingly, they will make boards in harmony with market needs, and this without agreement, because, knowledge begets common sense. (Applause.) And there is not a farmer, there is not a dairy man, there is no one in this nation that would deny the lumberman that privilege if they but understood our problems aright. Now, through the medium of this Association we are going to work out that problem. For the first time in the industry, it is awakening. Men are coming in from the hills where they have been sitting in the shadow of the somber forests and are coming into the light, and they are touching elbows with

**Salesmen
Can Sway
Public
Opinion**

**Hope in
the Southern
Pine Asso-
ciation**

their competitors. They are all making boards out of trees. They want to conserve those trees. They want to get a fair profit from their lumber. They can't do it unless they touch shoulders with each other. Why? My friends, do you know people seem to forget. You go down to your home tonight on the railroad train, to various places, you take one road, and you take another. You pay the same price, don't you? Exactly. Any agreement between the railroad companies on that proposition? No written agreement, no. But the law says that they have a right to charge for service, and as the service is uniform it is no violation of the law if the price is uniform. Every railroad in this country is under the shadow of the Sherman law and yet every railroad in this country charges alike for the same service.

Now, what we are trying to do is this: We are taking a tree growing out here in the virgin forests. We want to make that tree adaptable for human needs. We want to make it serve the values of life, serving children, serving men and women, serving the forward vision of a nation. We have to cut it, we have to bring it into the mill, we have to cut it up into various dimensions; we have to put it on a car; we have to deliver it to a market; we have to sell it to a distributor in that market, and then we lose track of it, because we don't sell it to the ultimate consumer. We sell to the man who sells to the ultimate consumer; and, my friends, we are just now realizing this, and the law is realizing it, the people are realizing it—that where these manufacturers are cutting each other's throats by putting cars in transit—(prolonged applause)—by overproducing the market—I say, my friends, when these men are doing this they are not getting cost for service; they are selling their labor, they are selling these trees that it took the laboring years centuries to mature, that were given for the need of all, selling those to the retail trade—not to your farmer, not to your dairyman, not to your house builder—but to the distributor of lumber, at a cut price. My friends, that is going to stop, because men do not throw their pearls before swine. Men don't give their title deeds away for nothing. These men who own trees through the sane, common sense methods of the Southern Pine Association are going to give you men a fair chance to make records, and you haven't had it before. (Applause.) Somebody has said you must not be content with being an order taker; you must sell not

What the
Association
Is Trying
to Do

at a price purely; prices must not be your god. You must not go out just to get orders. You must be real salesmen. Fine! That is what you are going to be; but you can't be it unless you are helped at the other end of the line; and that is where this Southern Pine Association is co-ordinating efforts, my friends. This is your industry. Take pride in it! Take a joy in your service! Why, my friends, this is an epoch-making time in which we live, and our children and their children will look back upon it as the beginning of a great constructive era. You are right now in the front trenches of this, the greatest movement in American history. We are now for the first time commencing to think of economy, efficiency and order in our national life. There has been challenge to our national conscience, for we have been brought face to face with the fact that other nations living under autocratic forms of government are more efficient and have greater care for God's gifts than we in our great democracy. We are going to arouse this democracy to a right understanding of our obligations to them; and this country will be, under God's providence, the living light that will lead the world, for you and I and our brothers everywhere will live up to our obligations. We can't do it by simply making guns and building battleships. We have got to conserve and make the best use of our forests. We have got to conserve and make the best use of our coal and our oil; and those things the good God who made them—not man—He has given them to us for our use, and it is not right for us to waste them as we have. But it is difficult to co-ordinate rightly in a democracy and that is because the multitude rules. You have got to have the highest degree of intelligence; but men every place are having a better understanding of these things of efficiency. The German Empire would have been a thing of the past, regardless of the size of its army, if it had not treasured its trees, if it had not conserved its coal, if it had been unable to mobilize its industrial units. My friends, just think of this: Just the other day, thirty miles from Berlin they planted two million little saplings in a new forest that they are planting, for one hundred years from now, to serve the empire. That is the kind of nationalism we must get if our democracy is to be the leader in the world's great struggle. We want to serve humanity. They over there may want to triumph for selfishness. You know and I know that our mission in

**This an
Epoch-
Making
Time**

**A Higher
Appreciation
of Efficiency**

Mexico is one of service. Our mission to the Philippines was one of service; our mission to Cuba was one of service. We have the ideal of humanity well developed, but we must learn to put our industries in a position where they can serve that great ideal.

My friends, you are men who are largely in the front of this great movement. When you see things that are not right in the industry, when you see things that ought to be corrected, tell not only your house about it, but see that the Association knows about it, because there are high-minded, clear-visioned, upstanding men in this great industry. They want to do right, and they want to teach the whole industry to do right. You are in a position to serve, and you are not getting into the rut; you are out of the rut; you are on the high plane of a great future. Bring this industry to the front where it belongs! And, my friends, you can do it! I thank you. (Loud and prolonged applause.)

**Salesmen in
the Front**

Lumber Salesmanship

By Edward Hines

Edward Hines Lumber Co.

Chicago, Ill.

**Expected a
Congress of
"Home
Talent"**

I rather hesitate, in trying to hold your attention, for I fear the subject of salesmanship has been so fully covered, first by that marvel and living example of scientific specialization on salesmanship, Dr. Krebs, whose wonderful word picture so intelligently, forcefully and eloquently painted, must be planted in your memory, not soon to be forgotten, and which contains so much for future thought and guidance for us all. Then listening to Mr. Barrett's able presentation of his ideas, it indeed takes courage to attempt to follow two such able, entertaining professional speakers. I supposed this was to be a congress of home talent, if indeed I am even safe in using this word, so at the start, I ask your kind indulgence.

In preparing my remarks, I had in mind seeing a much larger percentage of the manufacturers and home sales managers

present, hence prepared my paper, having in mind reaching them, as really through them only, in many ways can progress be made, ably assisted by you gentlemen. I am very much disappointed at not seeing more manufacturers present, as I feel that many things could be learned at this meeting, and also by their presence, encourage this movement.

When asked by Mr. Rhodes, secretary of your splendid Association, to come here today and address the School of Salesmanship, had I considered my personal business and the urgent obligations that I had elsewhere, as it seems many have, I would have felt warranted in saying "impossible." For the past month I have hardly been at my office. Three weeks ago in Chicago, the entire week was practically taken up with the deliberations of the National Lumber Manufacturers' Association, following which came a week with the National Republican Convention; then followed by the meeting of the National Hardwood Association of the United States. In each one of these I had a strong personal interest and felt obligated to devote much of my time to them. But I am very much interested in your Salesman's Association, and I firmly believe in the ideas you are endeavoring to promulgate. It assuredly is an advanced step in scientific salesmanship, and if there is one thing that the Yellow Pine Association needs today, it is such advancement, and I heartily concur in it.

**Salesmen's
School a Step
in Advance**

Moreover, I am here representing in a measure, the National Lumber Manufacturers' Association, as one of its Board of Directors, to assist in any and every way possible, your organization, the largest unit of the National Association. I have, too, a selfish motive to serve as the interests that I represent are large holders of yellow pine stumpage in Mississippi, and I feel that the movement that is inaugurated here today will be a wonderful forward step in bringing about enhanced stumpage values if this movement is properly managed. These should have as their foundation, first a reasonable value for stumpage which each year added thereto the cost of interest and carrying charges plus the full operating expenses, with reasonable depreciation per year on all plant accounts, then 12 per cent for profit based on the selling values, and, as the Government has gone on record in declaring a 12 per cent computation over and above these costs a reasonable manufacturing profit.

**Expects
Enhanced
Stumpage
Values**

**A Tribute
to Mr. Rhodes**

Knowing so well the personnel of the officers of your organization, and having had many years' experience with Mr. Rhodes, your most active and efficient secretary, through his and my connection with the Northern Pine Manufacturers' Association, for which he served as secretary for many years, I appreciate that the work is in excellent hands and that the yellow pine interests have awakened to the necessity of doing something to elevate a great industry to a plane to which it is rightfully entitled.

**The Lumber
Industry
Asleep at the
Switch**

The lumber industry as a whole has been "asleep at the switch," so to speak, and in my judgment, they are alone largely responsible for unfortunate conditions. Yellow pine has been especially unfortunate. I believe fully 75 per cent of the entire production goes to a territory where it has no competition with any other wood, but simply competes one yellow pine manufacturer with another. Certainly that condition furnishes much food for sober thought and consideration. So in that large proportion of the sales end of the business, they have the remedy in their own hands.

**Contrasting
the Past With
the Future**

As I stand here today my mind goes back to my first experience in the lumber business some forty years ago. When I ponder a moment and attempt to picture, judging from the past, what changes will occur in the next forty years, I can but feel that many of us here today will not be present to witness the greatly changed conditions that must come; changes of a decided character, advanced, I trust, and much improved. It is well in trying to judge the future and to make reasonable provisions for it, to take somewhat of an inventory of the past; to go back and study conditions, then take up one by one the changes that the industry has undergone. A diagnosis of the causes that have changed the conditions in the lumber business discloses a remarkable evolution in every department of our great industry, and especially so in the sales department.

In the early '70s and '80s, Northern pine was practically the only wood for building material that could be obtained in that great consuming territory known as the Middle West, bounded on the east by the Allegheny Mountains, on the north by the Great Lakes and its tributaries, and on the west by the Rocky Mountains. Nature had well provided ways and means of transporting the logs from the tree to the sawmill at comparatively small costs. In the states of Michigan, Wisconsin and Minnesota there were

driveable streams carrying the logs for several hundred miles from their sources, quickly to lake ports and lumber was there manufactured in large quantities at the well known lumbering manufacturing ports of Saginaw, Bay City, Alpena, Oscoda, Cheboygan, Traverse City, Ludington and Manistee, Mich., and in that greatest of all lumber manufacturing markets of the Great Lakes for many years—Muskegon, Mich.—where at one time there were forty-seven sawmills located, manufacturing in a single year over one billion feet of lumber, and practically all of it white pine.

Famous Lumber Centers of Other Years

The manner of marketing lumber at that time was indeed very crude. The manufacturer gave careful attention and expended time and money to avail himself of the most scientific methods of logging his standing timber and making the logs so that the product in lumber would be of the best quality possible. Every facility; every means of economic operation were carefully supplied and adopted. Provisions were made for reduced costs of manufacture, and such men as David Ward, David Whitney, Hon. Isaac Stephenson, Royal C. Remick, Charles Hackley, the Sages, Merrills, Rusts, D. A. Blodgett and numerous other operators in Michigan made the early history of logging manufacturing, epoch-making and interesting.

The lumber was piled on docks available only for water transportation; the various grades, thicknesses, widths and lengths together. In one pile there would be everything from a 4-inch 10-foot No. 3 strip to a 1st and 2d Clear, varying in value from \$10.00 to \$50.00 per thousand feet. That lumber in nearly all instances would be loaded on what was then known as sailing schooners carrying from 150,000 to 250,000 feet.

Lumber Assembled Without Regard to Sizes

In those days Chicago was the greatest lumber market in the world, having at one time eighty-six lumber yards, almost every one under separate ownership, hence a larger number of these vessels were consigned to what was then known as the Chicago Lumber Market, and at times, owing to unfavorable winds, the boats became bunched and with the first favorable wind would come to Chicago in great numbers. I have seen as many as 107 boats at one time loaded with lumber tied up in the Chicago River from the Randolph Street bridge to the mouth of the river for sale.

**Hit-Or-Miss
Methods of
Marketing**

Gentlemen, consider what a large quantity of lumber was consigned by manufacturers without any knowledge of what they would receive in price, measurement or terms, as it was practically auctioned off to the highest bidder. At that time there existed and does exist today in these large cities, an association whose interest was and still is only in their own particular business; that of buying and selling lumber; totally disinterested in the manufacturer's problems or troubles. Their interests were concerned only in making sales at prices, regardless of the weal or woe of the manufacturer.

**Early Morning
Sales at
Auction**

My first vocation in the lumber business in the year 1879 was as tally-boy to inspectors on the Chicago River in the old lumber market at the foot of Franklin Street, where I had the personal experience of seeing lumber handled in the above described manner. Early in the morning during the open navigation the wholesale yard dealers, or buyers as they were classed, would congregate at the lumber market, arriving as early as 5:30 a. m. The commission men would meet them, provided with but meager information of the boat load of lumber, showing the name of the boat, approximate quantity and about what the cargo consisted of. The buyers would make a sort of preliminary survey of the cargo, "dig up," so to speak, four or five layers of the lumber, turn it over and examine it as well as they could from the hatchways, and the cargo would then be auctioned off by the commission man to the wholesale and yard buyers. After agreeing on a price for what they would class as merchantable and better, a term that included everything 4-inch and wider, 10 feet and longer, 1-inch and thicker, from the grades of what are now known as a portion of our No. 3, all our No. 2, No. 1 flask stock, D, C, B and A Select, 1st and 2d Clear, No. 1, No. 2 and No. 3 Shop, and some others. They would then agree upon a price for the so-called mill culls in the cargo, this term being about as elastic as the inspector's conscience would allow. The buyer selected from a dozen or more inspection firms one to measure the lumber under inspection rules adopted by the Chicago wholesalers, who said they were legal because authorized by a charter from the state, and in the consideration and adoption of which the manufacturers were never consulted. You can appreciate under such inspection, practically influenced and controlled by the buyers, the

treatment the manufacturer received, and how the inspectors naturally catered to the buyers. After the bargain was consummated several inspectors got aboard with one or two tally boys and the cargo towed to the respective lumber yard, there to be unloaded. A gang of longshoremen would unload the cargo, men working two in a gang, throwing lumber over in armfuls all the way from four to a dozen strips and boards at one time. While this was going over the boat, the inspector, purely by sight, not attempting to measure with a board rule, would attempt to ascertain how much lumber was in each parcel or armful, and what percentage of it he could class as mill culls. You can draw your own conclusions as to the accuracy of either the measurement or inspection. Later, when I was employed by one of these wholesalers I had the opportunity of viewing the other side and knowing the exact returns from cargoes unloaded and measured in the manner described, and I saw the large amount of overrun in feet, not to speak of the large proportion classed as mill culls which was of better quality lumber. When the cargo was unloaded a recapitulation of the inspection was made out and the yard man would settle with the commission man on basis of the inspector's report. The manufacturer in every instance was paid for his lumber on a basis of this measurement and inspection. That, gentlemen, was the manner of marketing millions of feet of lumber up to the '90s. You will appreciate the position of the manufacturers who in many instances had gone in debt for twenty to thirty years' supply of timber, pioneering the forests, and enduring privation and hardship, with little or no profit. Logging operations were conducted during the winter months of necessity, owing to the need for snow and ice for purposes of hauling the logs to streams for transportation to mill points. The men usually going into the woods in September or October and rarely returning until April, or when the driving of the logs commenced, suffering all manner of privations practically isolated during those six months from all home comforts, and, you might say, far removed from civilization. You can appreciate the hardships that the operators had to contend with as compared with today, logging in most cases now being done one to two days ahead of the saw and then entirely by rail, accessible in most cases in an hour on a comfortable logging railroad.

**A Slim Chance
for the Manu-
facturer**

**Hardships of
Early-Day
Lumbering**

As time went on the mill men began to realize how one-sided and unjust the selling methods were, and naturally sought some practical means of correcting the existing abuses. Some few far-sighted manufacturers first conceived the idea of securing ground adjacent to their sawmills where the lumber was assorted in reasonable separate widths, lengths and grades; an estimate was made of about what an average cargo of mill-run stock would be worth, in order to ascertain and tell their asking price, and thus the first departure from the older selling methods was inaugurated.

From that time on there was a gradual improvement in selling agencies. Some manufacturers went further and tried to reach the yard trade, and the large manufacturing trade direct, and discontinue the shipping of their product in this unselected, crude manner, to the wholesalers, endeavoring to obtain more nearly the actual value of their product in the markets where it was ultimately used. From such methods developed the yarding of the lumber at Saginaw, Bay City, Muskegon, Menominee, Marinette, etc., by the well-known firms of Kirby-Carpenter Company, Eddy Brothers, Pitts & Cranage, Bliss & Van Auken, Sawyer-Goodman Company, Hamilton Merryman Company and numerous others, finally discontinued entirely the shipping of their stock by boat to these wholesale markets.

In the late '70s and early '80s Chicago was the largest lumber market in the world. Conveniently located at the foot of Lake Michigan by water, the cheapest of all transportation means, tributary to all the lumber manufacturing points on the Great Lakes and the Georgian Bay district of Canada, enabling them to transport rough lumber, and in many cases, green from the saw, at a nominal cost. I have seen lumber transported by boats many times from Muskegon to Chicago at the rate of \$1 per thousand, when the labor for the loading and unloading would amount to 50 cents, leaving the boat about 50 cents for transportation charges. Compare today's freight charges on your product by rail, rough from mill points to Chicago—24½ cents east, 26½ cents west, about \$10.00 per thousand—and you have to load it—a difference of 1,000 per cent in transportation charges.

Centrally located, reaching by railroads the entire territory from the Allegheny Mountains to the Rocky Mountains and the Ohio River, favored by great railway facilities where cars could

**Mill Men
Finally
Awake**

**Boat Shipping
to Wholesalers
Finally
Stopped**

**Shipping
Lumber at
Fifty Cents
a Thousand**

always be had, due to the unusual incoming freight from the South and West, in those days practically all grain and stock came to Chicago—cars were always available for lumber shipments out. In those days there were upwards of sixty distributing yards located in Chicago, all doing a wholesale shipping trade. I have within my experience seen lumber shipped in train loads from Chicago to Texas, right through yellow pine forests; have seen long joists, etc., kiln-dried in Chicago (and put lengthwise into a kiln in order to dry them), shipped to the Tabor Opera House at Denver, Colo., taking a 71¾ cent rate. Consider how vastly different are present-day conditions. Fir from the coast reaches that market on favorable freight rates; yellow pine and white pine from Idaho; pine from Montana, and your yellow pine from the South are all factors. As many of you gentlemen who have had experience in the early days know, Chicago was practically the only market that supplied for a long time very largely the great prairie states of Nebraska, Kansas, Missouri, Iowa, Illinois, Indiana and Ohio. Compare the then prevailing conditions with those of today. The former great water receiving centers of the United States, like Buffalo, Cleveland, Toledo and Chicago are receiving lumber daily, and in many cases in train loads from Texas, Mississippi, Arkansas, Missouri, Louisiana, Alabama, Georgia and Florida, in fact, more yellow pine is coming into Chicago today than any other wood. I mention this to call your direct attention to them as a foundation for my remarks and to show how evolution has wrought great changes in the methods, particularly of selling lumber. This should awaken in you a deeper sense of your obligations and your duties, and awaken in you a new interest in the problems you are here to discuss and consider. You are the veritable eyes of the industry, through which the manufacturers must look to see the light of day in solving these troublesome and vexatious problems.

**No Car
Shortage
Then**

**Yellow Pine
the Leading
Wood Now**

In the early '90s the sawmills located along the Mississippi River from St. Louis north to Minneapolis, and those located throughout Minnesota and Wisconsin were each making separate grades, known by the particular mills that cut the lumber. Each manufacturer was making his own prices, based on what he felt his particular grades were worth. The manufacturer making better grades than his neighbors would come in competition in the selling price with the one making the poorer grades, and better

**The Birth
of Grade
Standards**

grades were soon lowered in value to a level of the poorer grades. The manufacturers realized that something must be done to standardize grades if they were ever to standardize values and secure prices commensurate with costs of production. They were able to control their logging end; could compare the cost of manufacture and correct any material defects and differences, but owing to the irregularity of the grades, their prices were accordingly irregular and too elastic. Finally committees from the Mississippi Valley Lumber Manufacturers' Association, and, what was then known as the Wisconsin Lumber Manufacturers' Association, met in conference, and Mr. George H. Long, then with the Northwest Lumber Company, Eau Claire, Wis., now with Weyerhaeuser Lumber Company, Tacoma, was made chairman of a joint committee selected for the purpose of standardizing the manufacture and grades. Too much credit cannot be given Mr. Long for formulating what was later adopted in joint session by both associations, uniform rules of manufacture and grading, based on most intelligent ideas. Practically all the mills along the Mississippi River and in Wisconsin and Minnesota adopted these rules, and but a short time elapsed ere they secured uniformity in manufacture and inspection. There followed gradually and naturally more uniformity of prices. I think you will bear me out in my statement that during the trying times the yellow pine manufacturers have experienced in the numerous fluctuations in their prices, Northern pine values have held uniformly firm with comparatively little difference between the various manufacturers' prices. A net price-list means something; the retail and consuming trade of the United States have felt for many years that a price-list issued by any of the various manufacturers composed of the Northern Pine Manufacturers' Association, represented with reasonable accuracy the selling value of their products. Their price-lists were not issued subject to cuts of from \$5 to \$15 per thousand. The trade has become educated to know that it meant a price-list of real values, subject only to slight fluctuations—never to concessions of from \$5 to \$15 per thousand, as is the custom in making yellow pine prices. Traveling men in quoting dealers do not use the term "such and so much off," "so and so's" list, but quote stated prices delivered to a given point, with closer consideration for the actual value of the stock.

I feel that the yellow pine manufacturers have made a mistake which should be corrected, on the basis they are quoting their lumber, and the price-list they are placing in your hands to quote from. It is entirely wrong. The trade has no respect for your price-list; you, yourselves, have no respect for it. It means nothing to you. On the contrary, it has no substantial foundation of real values. The very fact of having a price-current, that is most indefinite, that is cut by common consent anywhere from \$5 to \$15 is in itself an evidence of weakness; and depresses values through all the channels it reaches; has no stability; furthermore, you as salesmen, do not actually know the value of the product you are selling, and have no idea what your sales net your employer.

**A Mistake of
Yellow Pine
Manufacturers**

Up to the time that the white pine operators arrived at an understanding and adopted a more uniform manufacture and inspection, pine stumpage was bringing practically nothing. From that time on, prices gradually became reasonably uniform and advanced until today pine stumpage is bringing a reasonable price—a high price, in fact, compared with yellow pine stumpage values. Let us consider the competition in selling white pine as compared with yellow pine. In a territory where 80 per cent of your product is sold you have no competition with any other wood in lumber used for like purposes. Compare Northern pine with such conditions. We have strong competition in price with every wood manufactured in the United States in any market in which we sell our product. This is a broad statement, but nevertheless true, whether we go west, south or east. Don't you think, therefore, that your condition should be improved, wherein you have no competition with outside woods in 80 per cent of your territory? Some means should be arrived at which would correct this great evil. Such conditions are not welcomed by the retailer or large consumers of lumber. Within the past six weeks I have heard many statements in the larger buying markets to the effect that it is most difficult to handle yellow pine owing to the market fluctuations. For instance, at the present time many dealers have stocked up heavily during the winter months. They paid the higher prices prevailing at the time their purchases were made, and are now confronted with the perplexing difficulties arising from an all too eager and over-zealous effort to sell lumber, and retailers anticipating lower levels are selling for less than they

**The Advance
in White Pine
Stumpage
Values**

**Handling
Yellow Pine
Made Diffi-
cult by Market
Fluctuations**

bought your lumber for last fall and winter, and with no real conditions to warrant you in lowering your prices and placing them in this unfortunate position. Verily, gentlemen, your situation needs a remedy—a very drastic remedy.

I am one who believes firmly in selling lumber through association methods. Associations should be supported. Every manufacturer of yellow pine should belong to your Association. They should not alone be members, but they should give the Association their active, financial, moral and personal support. They should attend meetings; take part in the discussions; assist in doing committee work; encourage the chairmen of the various committees by giving their time, thought and energy, that the entire industry be represented through the Association.

The greatest good to the greatest number can be accomplished only through association methods. The time has gone by when individual interests can accomplish these things. Those who criticize association work and say that it has not accomplished "this or that and the other thing," are generally those who fail to give their personal help to the officers or the committees of the association. Before you can show a decided improvement in your prices, the members of your Association must have uniformity of manufacture, grading, planing-mill work, and establish the knowledge in the trade that no matter which mill the lumber comes from, it will be of the same general character in manufacture, planing-mill work, and grade. Upon this foundation, by intelligent, honest co-operation you can acquire stability, stay the extreme fluctuations of prices and can improve values, as well as attain more pleasant and cordial relations both between yourselves and your customers.

As was said by Mr. Parlin of the Curtis Publishing Company, in an address before the National Lumber Manufacturers' Association on June 1st, in any industry where the supply catches the demand, radical changes take place in merchandising problems. In some industries, and many of them, and that is particularly true in ours, there has been a period when the demand was greater than the supply. At such times the manufacturer made and shipped what he pleased; the retailer had to sell what he could buy, and the customer necessarily was obliged to accept what he could get from the retailer. But it is the history of industry, that a day comes when the supply catches up with the demand. The

Every Manufacturer of Yellow Pine Should Be an Association Man

The Greatest Good Through Association Methods

When the Supply Catches the Demand

retailer and large user of lumber then can select and reject; even the small consumer has something to say; the manufacturer can no longer make what he pleases; how he pleases, and give what he pleases, but must consider carefully what the consumer wants; he must cater to public sentiment, carefully watch the various substitutes that have been making inroads on his product, as well as what competitors in other lines of lumber are doing. In this day the retailer can no longer sell what he sees fit to, but must sell what the consumer demands. The manufacturer must carefully consider the wants of the ultimate consumer, no matter how small or large user of lumber he may be. In my judgment that day has arrived in the lumber industry.

**When the
Consumer
Dictates**

It was my good fortune to commence traveling in the early '80s, gradually covering the territory from Philadelphia to Denver; a large territory, most diversified; having experience first in the territory largely in Colorado, Nebraska, Kansas, in the days when lumber was in great demand, the country was settling up, and lumber for building purposes was naturally wanted first. The question of a little difference in thickness, widths, mixture of white and Norway pine, difference in grade or dryness was not considered, nor was the price considered, but the question was—how quick could the lumber be furnished. In many cases lumber was taken direct from the cars and hauled twenty to fifty miles from the railroad to new towns and communities that were constantly coming into existence. It was largely used for cheap class of houses for temporary use, sheds, barns, fences, granaries, etc. Almost anything that looked like lumber answered the purpose.

**No Arguments
About Grades
Then**

It was my pleasure at that time to sell to Mr. R. A. Long, then in the retail yard game, who started in a very modest manner, and it is with a great deal of pleasure and satisfaction to me, to have seen him surmount the great difficulties he has, and stand at the top rank of the yellow pine manufacturers of your Association, and today, as then, always ready to devote his time, thought and energy, as well as his purse, for the betterment and uplift of not alone trade, but humanity.

**R. A. Long
Then a Retail
Dealer**

I also had the experience of visiting a different class of trade. That of the consuming trade of the Eastern states, in New York, Pennsylvania and Ohio, where the requirements were more particular, and users insisted upon obtaining all white pine when

buying white pine, where they wanted stock of a certain uniform grade, where thickness, width, grade and dryness meant what was asked, where lumber was largely used for specific manufacturing purposes, to fill certain prescribed wants and where the better grades of lumber were used for pattern work and the better class of finish. Today there is not alone great competition in selling lumber on account of the various substitutes that have for some time been making serious inroads, but of one kind of lumber against the other, particularly in the West, where you have your competition with fir, the white and yellow pine from the inland empire. No wood has really the field alone. In all territories at certain points, one wood meets to some extent, competition with the other, although yellow pine is practically exempt from competition except with itself, in that great territory embracing the area from the Atlantic Coast to the Rocky Mountains, where it meets practically nothing in competition, as far as price is concerned, and in meeting Norway and white pine in the North, you have an advantage in price of from \$5 to \$20 per thousand, and even in competition with hemlock you have very little competition in any territory, drawing a line east and west from Chicago, and you do not meet fir competition until you get pretty well West.

**Consumers
More Particu-
lar in the East**

Yet, in this large territory yellow pine has no competitor in price, but itself. It must, therefore, appear to you that there exists a great need for advanced, intelligent, honest co-operation among salesmen, and that you try to reach a better and clearer understanding of the duties that devolve upon you.

In the earlier days the salesman was about the only means of establishing credit between the buyer and seller; the buyer catered particularly to him in order to have him give as good an impression as possible to his employer when he returned from his trip. I, personally, had experience in that direction because in those days, especially in the West, many retailers were obtaining a much greater line of credit in the purchase of lumber, than really, technically speaking, as we view credits today, they were entitled to. But the salesmen were given a great deal of latitude as regards credits; lumber sold quickly; retailers were making substantial profits and about the only thing one had to view generally was the moral risk and the character and business ability of the man to whom you were selling. At that time there were no such things as price-lists or stock-sheets issued. The millions of letters

**Yellow Pine
Has No Com-
petitor in
Price, Except
Itself**

**Wide Latitude
in Extending
Credit**

that are sent out today were then unknown as messengers; there was no such thing in certain prescribed territories as wholesale dealers or commission men, reaching the buyers at an hour's notice by mail, automobile or telephone. When the salesman called upon the trade, the buyer did not know when the next salesman was coming; he knew if he delayed placing an order it might seriously inconvenience him in taking care of his trade, so he generally acted promptly when the salesman called. There was a sort of obligation, when the traveling man called, that the retailer must make up an order for him. In reality a salesman in those days was merely an order-taker. Compare that, gentlemen, with your experience today. I wish to be very charitable in any censure I may place upon you, as I have had a wider experience in selling lumber, and am therefore able to judge with reason and in a kindly way, the conditions now confronting you, and to compare them with those of thirty-five years ago. I have occupied for this period of time, a continuous selling job. While I do not have the opportunity of calling on as many dealers as formerly, I frequently call upon those located in the larger cities, where keener competition exists, and several times a year make a trip from Chicago to New York City, calling at the various lake ports. While my efforts are usually directed to selling lumber in larger quantities, I am always glad to take an order for even a carload.

In many places you are received in an ante-room, where there is usually a sign reading in substance, "Salesmen received from 10 to 12 a. m." You are obliged to send in your card and await your opportunity. One good thing is that you always have company in the ante-room; some salesman will introduce himself to you and in turn introduce you to two or three other good fellows so that you have the enjoyment and pleasure of good company while waiting. It is almost like waiting your turn in a barber shop. When you are ushered in to the buyer, he usually feels he is doing you a favor and showing a courtesy, to see you at all, and you appreciate that you can take but a very few minutes of his time, to obtain his attention and serious consideration.

I maintain that specialization in salesmanship is indispensable today, not because I am quixotic and enjoy the selection of an arduous road, but for the cold matter-of-fact reason that in modern business there is no other road. The one road to successful selling that does exist, difficult as it may be, is continually

**Some Selling
Difficulties
of Today**

**Specialization
in Salesman-
ship Essential
Now**

getting narrower and more hazardous. The salesman who starts a selling career in any line of business with determination to make a success of his job will find his gray matter a much greater factor than his leg work. If he is going to exchange a standard commodity for cash, intelligently and at a living profit, he will have to think to do it, and he must THINK in capitals, for today mere industry and perseverance, admirable qualifications as they are, are quite as likely to lead their possessor to the poor-house as to success. He must put his thinking machine in high gear and keep it there all the time to keep pace with his competitor. To the man who does think, and is possessed of initiative to back up his mental activity by industry and action, the business world offers magnificent rewards in every way commensurate with the effort to attain them, and generally is soon recognized by his employer.

In my reference to former years I have in mind that period when I started out to try and become a salesman. when selling conditions were primitive as compared with those of today, so primitive indeed that mere perseverance unaided by scientific thought, tumbled many men into material success—ofttimes to their own bewilderment.

It happened that my first experience prior to entering the lumber business, was in a retail general store, where I had to deal with everything the housewife used, and I really think that first experience was a wonderful foundation, and many little ideas that were there initiated helped me later to circumvent larger problems. It happened later that my line was lumber, but had it been coal, sugar, flour, or what not, the application of those first principles would have been the same.

In the years of my first selling experience we men on the road called ourselves salesmen, but I know now that we were mere order-takers. We disposed of goods chiefly by seeing as many men as we could crowd into a day's travel. We got along splendidly by letting the buyer do his own thinking while we wrote down his spoken requirements in our order books; lumber was "lumber," and in reality it had no competition with substitutes or other respective kinds of lumber as you have today. In the great Middle West, pine was the only thing called for; in fact, it was a common occurrence to board a freight train going up a line of road, and while the crew were switching, seize the op-

Began in
a General
Store

Order Takers
Who Called
Themselves
Salesmen

portunity to run over to the lumber yard and book orders for several cars. But those days are gone, and gone forever. There is no more catching of lumber salesmen by the coat-tails to give them orders. Today lumber as well as everything else has to be sold intelligently. It is a day of standards, classifications, grades, brands and comparative analytical tests. Tomorrow will bring with it still higher standards and more exacting tests—things that are synonyms for tremendous accelerated competition. Today the successful salesman to overcome these problems should have a thorough knowledge of the product he is attempting to sell, not alone the finished product, and by this I mean that he should have a general idea of the wood, the peculiar character of it, its particular good qualities, defects allowed if any, what it is especially adapted for, wherein it differs with other woods he may come in competition with. He should have knowledge of the timber in the forests; the general length of the trees; average sizes; extreme sizes; percentage of large and small timber; a general idea of the logging problems with reference to what is practical, etc. Should have a good idea of the manufacturing end of the business; how the logs are cut up, not as regards ordinary country trade entirely, but with reference to what special stock can be gotten out of certain kinds of logs, also what waste there would be in order to know relatively what price special stock should bring over ordinary yard stock of about same dimension. He should possess a sound knowledge of what it costs to do all kinds of planing-mill work, so that when called upon to figure on any special working he will know whether it is practical or not; just what is involved in the uses of machinery and the rough lumber to make the finished product satisfactorily and with profit. In order to give a buyer a finished product that would be satisfactory for a certain purpose, he should know how much extra to ask over and above the price for that same size worked for ordinary yard trade. He should be able to approach the buyer of an ordinary retail yard calling for ordinary sizes, as well as the buyers of the larger manufacturing concerns. He must be able to approach the buyers of these larger concerns to a large extent as an efficiency man, to show not only the buyers of lumber but the mechanical man of these larger industries how to cut up and utilize the lumber with economy. He should be able to sit down with such a man and show him along practical and intelli-

**The Demands
of Modern
Competition**

**The Technical
Knowledge
Required**

gent lines, how he can furnish, for instance, yellow pine of a certain special size or quality, equally or more suitable than other kinds of lumber he is using for some particular purpose. He should endeavor to first find out what he is paying for the particular kind of lumber he has been using, how utilized, and then demonstrate the greater utility of his own product, and figure out the saving to the manufacturer by making the change. Very often you are asked to quote a price to manufacturing concerns, large corporations or even to the retail trade for certain purposes. For example, a particular length is called for, probably all 16 feet and 12 inches in width, when possibly 4 feet long by 4 or 6 inches is the finished size really wanted. It should be your duty to quietly and diplomatically ascertain for what special purpose the lumber is to be used; try to see the finished product, and just what they use it for, and many times you can secure an order for the finished sizes at the longer length and wide width price called for and make several dollars per thousand extra, thus improving selling and really raise the asking price for special sizes.

It has been my experience many times to make as much as \$10 per thousand on special items, and at the same time give the buyer full satisfaction. I recall an instance where a large manufacturing concern using several hundred thousand feet of 1x6-inch 12-ft. Clear and Select strips, and where I made it my duty to ascertain the particular purpose for which this lumber was used, and when we did, we found it was cut to 3-ft. lengths. The Clear and Select strips were worth about \$50 per thousand feet, in the full length. We were able to furnish the 3-ft. out of our short cuttings, mill-culls, a much inferior quality of lumber, but by cutting out the defects and allowing for the waste it made the lumber worth about \$25. We succeeded in getting the order changed to multiples of 12 feet and by giving practically all the short stock, we satisfied the customer by supplying exactly what they wanted; lumber of equal or better quality; with no waste, and made about \$25 per thousand, saving them the cost of re-handling and manufacturing and getting rid of a lot of undesirable or slow selling stock.

Another case I distinctly remember. A customer wanted a quantity of 2½-inch uppers, insisting that it being a peculiar inquiry, he must have just what he asked for. We learned by careful investigation that he wanted the lumber to cut to ⅜x2½-

**High Prices
For Short
Lengths**

**Greater
Profits and
a Pleased
Customer**

**Gained \$30 a
Thousand on a
Special Order**

inch slats to be used in refrigerator cars for shipment of fruit from California. The market price at that time on 2½-inch uppers was \$55 per thousand. In a very satisfactory manner we arranged to furnish the lumber worked to the required pattern from 1x6-inch 8-foot strips dressed four sides, resawing and ripping to ¾x2½-inch, at about \$25 per thousand, while the 2½-inch uppers in the rough, without being worked were worth over \$55, making a profit of \$30 per thousand. I could recite numerous similar instances that have occurred during my past experience, but the above are sufficient to illustrate the point I am trying to make.

The salesman must not alone make a careful study of the retailers' wants, but the various manufacturing concerns he has the opportunity of coming in contact with; and nowadays there are about as many manufacturing plants in the great Middle West as there were formerly in the territory east of the Allegheny Mountains. In this way he will find himself able many times to evolve means by which he can reduce the cost for his customers, where absolutely necessary for proper reasons, particularly in the retail trade, and at the same time help himself by working off odd stock or surplus items, or narrow, or short items, without prejudice to the quality or adaptability of the stock, by learning the exact dimensions and quality needed for the finished product. For instance, in the retail trade, he should make it his business to intelligently present to the retailer facts and experiences of others for example in the case of flooring, siding, ceiling and other items, even dimension, that a certain proportion of lengths shorter than 10 feet are equally as practicable as the longer lengths. The quality of the shorter lengths in the same grade, as a rule, is better than the long, and generally the price is several dollars per thousand less. By educating the retailer to keep in stock a certain proportion of short lengths, and by showing him that in selling the stock to the consumer he can secure the same price as for the long, and being able to buy for less, his average profit is thus made proportionately greater, and induce him to keep a reasonable stock of shorts. In this way he creates an avenue for the consumption of what might be classed as odd, or slow moving stock, and which unless special attention be directed to it, is not called for.

**The Value of
Studying the
User's Needs**

**Working Off
Odd Items and
"Irregular"
Stock**

Then particularly on corporation trade requirements, by being on the ground you can tactfully ascertain just what they want the stock for; try and see it in its finished state, and get the dimensions, thickness, width and length. After you have this knowledge you should quickly be able to size up the situation, and your sales acumen and initiative should then come into play, by endeavoring to obtain a proper price along the lines of their original inquiry, but with the understanding that you are privileged to furnish them stock cut to the finished length, and width, and thus enabling you to again work off odd items or "irregular" stock, which in its rough state might be of less value, but serves your customer's requirements equally as well, and thus make the additional profit per thousand for the house, and save extra work and handling to the customer.

**Good Sales-
manship Not
All in Dispos-
ing of Quan-
tity**

You should also realize that salesmen are paid not alone on the basis of the quantity of lumber sold, but that the house considers carefully the character of the stock, the amount of undesirable lumber and surplus items worked off, and the profit per thousand on each sale. And this is particularly true in viewing substitutes of other woods that you come in competition with. By seeing the finished product and ascertaining just what it is used for, you can more intelligently present, and offer for the buyers' consideration, something that you have, and which is equal in every respect to the article they have been buying for that purpose, and possibly better, bringing out the good points of what you offer, and at the same time, when conditions justify, sell it for even a little less than the buyer has been paying for other stock to make the finished article, and still obtain the asking price for the stock.

**Information
for Your
Office**

It is also important that information obtained daily covering stock used for certain new purposes, be daily forwarded to the home office, with all particulars. The sales manager, naturally having this information, will then transmit it to the other salesmen in their respective territory, and they in return then should take advantage of such knowledge, and offer the same class of stock to their trade for that purpose, and they can do so very intelligently and definitely when they have the facts. In this way the aggregate experience, properly disseminated, becomes a valuable asset, and each salesman thus gains manifold returns from the information dispensed.

As before stated, salesmen should be possessed of reasonably practical knowledge of the logging, manufacturing, planing-mill work, as well as a good idea of costs. Equipped with this knowledge, and having up-to-date stock sheets, and intelligent advice from the house, he should have his information as regards stock on hand, prices, etc., so condensed, and at his fingers' ends, so to speak, that he can answer all questions readily and with calm finality. The salesman who has to dig into a mass of papers, notes, or a whole pouch of papers to find out whether he can furnish this or that, or to obtain information or figure out a price before quoting, creates an unfavorable impression on the buyer and also takes up unnecessarily a lot of the buyer's time.

**Be Ready
to Answer
Questions**

Today this vast body of intelligent salesmen is the best means of disseminating truthful information about the lumber industry, and particularly the yellow pine industry, not alone to the great army of retailers who use lumber throughout the United States, but to the ultimate consumer. The traveling salesman should not alone feel that he is paid for the quantity and quality of lumber he sells, but equally important to the house he represents, and the great lumber industry in general, is the character of information he disseminates, and which he can do without extra cost to his employer.

One important feature to consider, and which the lumber industry has been suffering from for some time, is the fact that some lumber is being used for certain purposes of an unsuitable character for that purpose. The user of the lumber must be educated, and the traveling salesman is the best means to do so, and to show the dealer that he is not in business merely for the present, but for years to come, and that any consumers, builders and architects calling for certain kinds of lumber for a special purpose, he should so understand his business, as to seek in every manner possible, ways of overcoming the prevailing feeling of the average dealer that the only consideration of interest to him is the matter of immediate profit. He should be able to thoroughly explain to his customers, the architects, builders and consumers the importance of carefully considering using that particular kind of lumber which is best suited for any specified purpose. He should give intelligent, practical and honest advice to the retailer and encourage him to impart the same information to his customers.

**Unsuitable
Uses of
Lumber**

**Encourage
the Use of
Better Grades**

Such a course is bound to inspire confidence between the retailer, the salesman and the house he represents, which is in itself an asset, but it is of particular value and benefit to the general industry. Salesmen thoroughly equipped with experience, ready information, and capable of intelligently presenting valuable advice to the retailer must necessarily be favorably looked forward to, and such advice passed along to the consumer, and be of material help to all concerned. You should seek to encourage all possible the using of better grades than lower grades, for the satisfaction he gives his customer by his having him buy something fully as good as wanted rather than something poorer. The little difference in price is small compared to the appearance, quality, etc. A better quality makes a lasting customer—unsatisfied customer forgets the price but remembers the poor quality.

**Work for the
National
Association**

I feel that the National Lumber Manufacturers' Association should from time to time have information correcting various misunderstandings of the facts with reference to the lumber industry, and various information of vital importance to the general public with reference to this great industry. They should have this information very definitely and intelligently arranged and transmitted to the members of the different associations with request that each manufacturer write their salesmen, calling their attention very fully to the circular, and asking them particularly to explain these things in their daily visits with the retailers. Also wherever they have the opportunity (and they have many of them) explain to the hotel man, railroad agents and the various people they meet in their travels.

Such a course handled from mouth to mouth, would very quickly disseminate a lot of truthful information about the lumber business and correct a great many errors and misrepresentations that constantly appear in print about it and thus educate the public to view the industry along more favorable and fair lines than has been the case in the past, and creating public sentiment in the right direction.

**Salesmanship
Becoming
An Art**

Salesmanship is fast becoming an art. It occupies a relatively conspicuous place in the domain of commercial enterprise, and promises soon to outrank and outshine all other branches of our great industrial development. Dressed in the garb of scientific intensity it is rapidly becoming a man's game—a big man's game—where there is ample play for the keenest intellects. The traditional inaccuracies of "good-fellowship" in the sporting ac-

ceptance of the term—moist evenings and “sea-going” cabs—are no longer deemed to be potential factors for success in the selling game and play no stellar part in the closing of large contracts. Old-fashioned methods of selling merchandise, have succumbed to the invasion of Twentieth Century forces, generating maximum velocity with modern high-power methods. Inspirational salesmanship rests largely upon knowledge buttressed and reinforced by the spirit of DOING things. All obstacles are surmounted; every resistance vanishes, before the intelligent constructive analysis of present-day selling ideas. A closer and more intimate acquaintance with the subject; the keen spirit of competition and the determination to beat the other fellow to the “punch,” kindle the fires of ambition and supply the fuel for the high-speed motors of human endeavor.

Of the many recognized essentials for successful salesmanship today, none stand out so clearly as intelligence, perseverance, initiative and courtesy. And the greatest of these is courtesy. If in every business institution, as much real appreciation, as full credit and consideration were given the employee who radiates sunshine and good cheer with unfailing patience and intelligent sympathy, as to the one who masters severe technical difficulties, the business would be decidedly better, the spirit of loyalty firmly implanted in the heart and soul of every employee and the *esprit de corps* infinitely benefited.

**Courtesy
the Greatest
Selling
Essential**

You can't achieve what you don't believe. If you don't believe in your goods, it is hard to sell them to another. Conviction convinces—earnestness compels confidence. Training alone may produce efficient soldiers, but not effective armies—hired warriors never yet won a kingdom. Besides weapons, every fighter must carry his soul into action. Sincerity, an abiding faith in your own self, honesty and industry, all combine in a rare degree to render you an effective, compelling unit in the organization to which you belong. Power of expression and the right choice and selection of words in your conversation are complements of no mean importance. The euphony of language coupled with a finer mental poise are elements you must cultivate with care and precision. Put smiles in your conversation; avoid giving impressions that impart a chill to your listener, and keep always before you the need for a closer observation of the finer sensibilities of those with whom you come in contact.

**Earnestness
Compels
Confidence**

Painting *and* Finishing Southern Yellow Pine

(Exterior and Interior)

By Henry A. Gardner

Associate Director, The Institute of Industrial
Research
Washington, D. C.

General considerations: The structural materials expert will admit that nearly all kinds of building materials (cement, iron, and wood) require that decoration or protection which is obtainable only through the use of paint. This is especially true of lumber, the painting of which is to be discussed herein. The advocates of this material advance as one of their arguments for its continued use the fact that frame dwellings are generally lower in cost than those made of other materials, and are therefore within the reach of the average person. They also refer to the highly decorative appearance of painted wooden houses, which will generally last for a hundred years or longer, provided a coat of paint is applied every five or six years. Such statements as to the durability of painted wood are founded upon fact, for tests have shown that moisture and fungi, the two most active agents of wood decay, are kept from wood by the sealing action of paint.

Lumber that has been well seasoned is, of course, in the most receptive condition for paint, as it allows deep penetration of the priming liquids which form the bonding coat. Moreover, on account of the volume changes which take place in every known species of structural wood, the application of paint before seasoning is apt to result in a form of surface-cracking that is objectionable. It is, however, bad practice to allow completed frame structures a very long period of seasoning before painting. The very purpose of applying paint to timber is to prevent the accumulation of dirt and to protect the wood from the destroying fungi that assert their presence in the form of deep-seated stains. It is advisable, therefore, to apply a thin priming coat and a medium body coat of paint to all wooden structures soon after erection. If these coats are thin, well brushed out, and allowed sufficient time to dry, the wood will be coated with a film possessing what might be referred to as

Wooden
Houses
Good for a
Century

Well-Seasoned
Wood Takes
Paint Best

valve action. Moisture from the outside will be denied ready entrance, but moisture in the wood will be allowed to escape freely during dry weather. The action of the sun will, moreover, bring to the surface, without causing bad effects, any resin or sap which might be present in the surface of the wood. Exposure over the summer months will generally be found sufficient to weather out all of the objectionable contents of the lumber. It should then receive preferably two more coats of paint.

General Directions.—The paints, varnishes and finishing materials referred to herein generally contain upon the labels full printed instructions for their application. The procedure outlined herein for the painting and finishing of Yellow Pine may, however, be followed with assurance of most excellent results.

EXTERIOR PAINTING.

Yellow Pine.

No paint or other finishing material should be applied in damp weather. The interior plaster work of a new structure should be allowed to dry thoroughly before applying paint to the exterior of a building, as the water drawn out through the wood might cause blistering. The surface of the wood must be free from moisture. Weathering of the wood previous to the application of paint is generally advisable in order to allow thorough seasoning and drying out. If the wood has been previously painted, all old, loose paint should be removed with a wire brush. If the wood has not been previously painted, all knots and sap streaks should be brush-coated with turpentine not more than one hour previous to the application of the first coat of paint. (Never use shellac for coating knots.)

Priming Coat.—Never use ochre as a priming coat. Serious results are bound to follow. A high-grade prepared paint* made

**Painting Yellow Pine
Exteriors**

* U. S. Army Paints (White).

The majority of the high-grade paints to be purchased from reliable dealers will closely approximate the prepared paint called for by the specifications of the U. S. Army, which are as follows:

"The paint must be furnished in prepared form, ready for application. White paint must contain not less than 65 per cent nor more than 70 per cent of pigments, the balance to be liquids. The liquids shall consist of pure raw linseed oil, containing a total of not over 10 per cent of turpentine and turpentine drier. The pigment portion of the paint shall consist of white lead (basic carbonate or basic sulphate) and zinc oxide. There shall not be less than 25 per cent nor more than 50 per cent by weight of zinc oxide. Paints of this composition containing, in addition, not over 15 per cent by weight of such white pigments as barytes, china clay, whiting, asbestine, and silica will be accepted under these specifications."

Use of Turpentine and Benzol

by a reputable manufacturer should be selected. Such paints should be prepared upon a lead and zinc base. To one gallon of paint there should be added three pints of turpentine or benzol.‡ The thoroughly stirred mixture should then be applied, brushing it out into a thin coat. This will rapidly dry to a hard undercoating which is the secret of painting success. The paint will penetrate deeply into the wood and provide a substantial and permanent foundation for the subsequent coats.

Second and Third Coats.—When the priming coat is thoroughly dry, close all nail holes and other imperfections in the wood with a good grade of putty. This should be followed by the application of the second coat of paint, which may be used as it comes from the can in prepared form. If the paint is thought to be too heavy, a pint of turpentine to the gallon of paint may be used for thinning. After a suitable drying period, the third coat may be applied, as it comes from the can, without reduction. Better results will be obtained, however, if the two-coated job is allowed to weather over the summer months. The finishing coats may then be applied to the well-seasoned structure.

It should be remembered that the most durable results are obtained from tinted paints. Permanent colors which have been ground by machine into the lead and zinc paints have the effect of preventing painting defects and increasing the durability of the paint by 30 per cent.

If the property owner should desire to mix his paint by hand, which is not an economical procedure, he may obtain packages of white lead ground in oil and pure zinc oxide ground in oil. Mixtures of lead containing from 25 to 50 per cent of zinc are generally used.

INTERIOR PAINTING.

Yellow Pine.

Clean and sand-paper. Brush-coat knots and sappy spots with turpentine not more than one hour previous to the application of the first coat of paint. Select a high-grade prepared paint made by a reputable manufacturer upon a lead and zinc base. To one gallon of paint there should be added three pints of turpentine. The

‡ Benzol 90 degrees or Benzol 160 degrees (Solvent Naphtha) may be used with even better results than turpentine for thinning the priming coat of paint. Benzol is the water-white distillate from coal tar. It must not be confounded with benzine. When benzol is not obtainable use turpentine.

Tinted Paints Last Longest

Painting Yellow Pine Interiors

thoroughly stirred mixture should then be applied, brushing it out into a thin coat. This will rapidly dry to a hard undercoating that has penetrated deeply into the wood. If the finishing color is to be white or light tinted, there should be applied over the priming coat of paint a thin coat of white shellac. This will prevent discoloration of the surface by resin in the wood. After drying, the imperfections may be puttied up. There should then be applied three coats of paint of the desired color. If a varnish coat is applied over the paint, it should be a light-colored, good-wearing varnish, evenly applied, and it should be colored with the finishing tint.

ENAMELING.

Yellow Pine.

For enameling, the same treatment of knots, priming with paint, coating with shellac, and puttying should be adopted. Apply three coats of white prepared paint or flat finish. Then apply one coat of half paint and half enamel. Finish with one full-flowing coat of best enamel. Each coat must be thoroughly dry, and should be lightly sand-papered before the application of another. All coats should be tinted as desired. The enamel coats may be rubbed with water and powdered pumice stone if a satin finish is desired.

Enamel for
Yellow Pine

STAINING AND VARNISHING.

Yellow Pine.

Natural Finish.—The woodwork should be thoroughly cleaned and sand-papered where necessary. Apply one coat of white shellac.

Cover all nail holes and other imperfections with putty colored to match the wood, taking care to remove surplus putty.

Give two coats of good-wearing body varnish, the last coat to be evenly flowed on. Sand-paper thoroughly between coats. If a flat finish is desired, the varnish coats may be rubbed—not too closely—to a dull, even finish, or a dull-finish varnish may be used. If the natural color of the wood is a trifle too bright for the effect desired, a very little burnt sienna added to the first coat of varnish will produce a more suitable finish.

Staining and
Varnishing
Yellow Pine

Stained Work.—All woodwork should be thoroughly cleaned and free from imperfections. Apply one coat of linseed oil prepared stain containing benzol. Sand-paper lightly. Close nail holes with putty to match stain, removing all excess putty. Apply two good coats of strong-wearing body varnish, evenly flowed on, and sand-

paper lightly between coats, taking care that each coat is thoroughly dry before another is applied. For a flat surface rub lightly with oil and pumice stone or apply one coat of flat varnish.

FINISHING FLOORS.

Yellow Pine.

Natural Color Finish.—Never lay a Southern Yellow Pine floor until the plastering of the building is on and thoroughly dry. Floors should be cleaned, smoothed, hand-scraped, and sand-papered with the grain of the wood, and left in perfect condition to receive the work of the painter, the same as any other high-class hardwood floor.

Apply a very thin first coat of white shellac. Sand lightly with fine sand-paper, and apply two coats of best elastic floor varnish. If a dull finish is desired, rub lightly with oil and pumice stone. Wax varnished surface if desired.

Stained Floors.—If the floor is to be stained, omit the shellac and apply one coat of linseed oil prepared stain containing benzol. When dry, apply two coats of best elastic floor varnish. Wax if desired.

Do not attempt to finish a Southern Yellow Pine floor by the use of wax or oil alone. A polished surface will result, but it will not be hard, and will soon discolor with dust and dirt.

PAINTING SHINGLE ROOFS.

Yellow Pine.

New shingles, if well seasoned, may be dipped in a prepared mineral paint that has been suitably thinned with turpentine or mineral spirits so that the excess paint will readily run off, leaving an even film. It is customary, however, to paint shingles on the roof. This is usually done after the shingles have weathered for a short period of time, but previous to the formation of corner pockets or other defects due to the action of the weather. The paint should be well brushed in. One coat is sufficient, but two coats will give a more durable job. Shingles 4 inches in width are usually laid to show not over $4\frac{1}{2}$ inches of their length of 16 inches, thus forming a quadruple roof of approximately 100 square feet to a thousand shingles. One gallon of prepared shingle paint will cover 400 square feet, one coat, if well brushed out.

Shingle Paints and Fire Resistants.—From time to time one sees in lumber journals or other papers the account of a test of

some so-called fireproof paint. There is usually shown a photograph of two or three small shacks from which flames and dense clouds of smoke are issuing. One shack is usually so constructed or treated that it is apparently unaffected by the fire, presumably on account of the remarkable paint in question. Whenever such advertising matter is accompanied by the statement that the paint which gave the good results is "fireproof," the reader should be careful about accepting such claims, for, in the writer's opinion, there is no durable exterior fireproof paint in existence.

**Fire-Resistant
Shingle Paints**

The use of a good grade of linseed oil-mineral pigment paint will make lumber resistant to flame and the action of hot cinders. Such paints, however, are not fireproof, but simply "fire-retardant" or "fire-resisting." For exterior use upon dwellings, they constitute the only type that it is possible to use with economical results. The incorporation of small percentages of certain salts and metallic compounds (borates, etc.) into such paints may slightly increase their value as fire-retardants, but will never make them fireproofers of wood. It is true, nevertheless, that many fires have been prevented through their use, especially roof fires. It is, therefore, a growing custom for the property owner to paint the roof as well as the siding of his home. Shingle roofs, properly painted with a good mineral paint, have the following advantages: Light weight, low cost, long life, moisture-proof, fire-resistant, durable, ornamental.

**Advantages
of Painted
Shingle Roofs**

Creosoted Wood Blocks *for* Interior Service

By A. H. Noyes

Assistant Treasurer, Ayer & Lord Tie Co.
Chicago, Ill.

The apathy with which lumbermen collectively have viewed the field for creosoted wood block interior installations has been a point of vital interest to us, as manufacturers of blocks for this service and instances, almost without number, have been brought to our attention where direct opposition by retailers and jobbers has done much to kill our chance for promotion or sale, on account

**Big Possibil-
ities in
Wood Block
Interiors**

of their inability to divorce themselves from personal interest, in favor of the general good of the lumber trade. I will grant to a large extent, this has been brought about by a lack of intimate knowledge of the utility of creosoted wood blocks for floor purposes, and mainly the object of this paper is to bring home to you gentlemen the possibilities that this field offers you, as an outlet for millions of feet of block stock, that today is being lost, and concrete, mastic or other mineral compounds substituted.

You are all aroused over the gains made by the cement manufacturers and freely admit that they are alive to their opportunities to promote the use of concrete, for any purpose that offers an outlet for their product. On the other hand, you gentlemen of the lumber trade cover the field thoroughly, follow the trade reports of new buildings, looking to an increase in your sales, but with very few exceptions do we ever find instances of live co-operation by the lumber trade in the promotion of creosoted wood blocks for interior service.

A short story of the manufacture, promotion and sale of creosoted wood blocks may be of timely interest. Contrary to a generally accepted opinion among the laymen, the stock used in wood block manufacture is of excellent quality. To begin with, we buy 3x8 and 4x8, 10 to 20 feet, square edge and sound, long leaf yellow pine, free from bark, loose or rotten knots or any other defects detrimental to its strength or durability. The annual rings in three (3) inches measured radially from the center of the heart shall average not less than eight to an inch; orders for this material being placed with mills, on such lines of road that allow for delivery to our plants and give us the benefit of a manufacturing and treating in transit arrangement. The method of handling the material from the tree to the car through your mills is too well known to warrant discussion. On receipt of the material at the treating plant, it is removed from cars and stacked in open piles for rapid seasoning, which period varies, according to the weather condition and the degree of seasoning each specific order may make necessary

As an example, let us follow through an order for, say 1,000 square yards of 3-inch interior blocks for machine shop floor. The order, when made out, will advise the plant to cut 3-inch blocks from 4x8 dry stock and to treat by the Rueping process, using English oil. Floor condition dry. With this information, our su-

Little Co-
Operation
from
Lumbermen

Good Stock in
Wood Blocks

Following
Through
an Order for
Wood Blocks

perintendent turns to his records and finds that certain cars of stock from certain mills were received and stacked for seasoning on a certain date; he gives a copy of the original order to our block mill foreman, with instructions to cut 28,000 feet B. M. of dry stock and giving car reference, which in each instance is marked on the pile. It is the block mill foreman's place to satisfy himself that the material designated is in proper condition to receive treatment. The planks are then handled by locomotive crane, onto a conveyor, and moved up to the block mill, where the first step is to surface 2S1E and from there to the cut-off table, where the plank is cut to block machine length. In cutting 3-inch blocks we use nineteen 14-gauge saws, cutting twenty-one blocks each time a piece passes through. Directly behind the saws stands an inspector, ready to take frequent cuts for gauging in order to detect any variation in the depth of the blocks, and his instructions are to stop the mill when the cuts vary more than one-sixteenth of an inch and to locate which saw is making the trouble. This may seem like very close cutting, and it is, but one saw on an arbor, making uneven blocks, would cause considerable trouble and afterwards an uneven floor. From the machine, the blocks fall onto a table, where a second inspector stands ready to cull out any blocks showing bad checks, wane, shake, knots or other defects, and from there onto a conveyor, which carries the blocks to the loading bins, and from which they are dumped into waiting cages on trams and run into the treating cylinders for treatment.

**Care in
Cutting Blocks**

The treatment consists of an initial air pressure of approximately 75 pounds per square inch, followed by an oil pressure of from 175 to 200 pounds, and a final vacuum, which, with the aid of the compressed air in the wood cells, forces out all surplus oil, leaving the fibres coated with oil and the timber thereby preserved. From this point on, the handling is of slight interest, until the blocks are laid, so we can leave the block at this point and turn to the methods to be followed in the promotion and sale of our product.

**The Treatment Given
Wood Blocks**

The whole fabric of our sales promotion is built on an advertising campaign that brings many inquiries from interested readers. It is our practice to send literature and a personally written letter in answer to all inquiries. We do not use form letters or printed circulars, as experience has shown us that these means bring but meager returns, while on the other hand, personally written letters (and where possible addressed to some official) return us a very

**Sales
Promotion
Built on
Advertising**

large percentage of replies, possibly as high as 75 per cent. These inquiries are referred to the local office covering the territory and a salesman makes a call at an early date. On reaching the town, our salesman first covers those plants where interest has been shown, or from whom we have received inquiry. After these calls, he makes a call on every manufacturing plant in the town, regardless of size or apparent prosperity. You never can tell where lightning will strike, and the superintendent of a small plant today may be the superintendent of a large one tomorrow, and your promotion talk will not be lost. New plants offer attractive prospects and our work on these must be early, generally with the president, vice-president, general manager, superintendent, engineer or architect. We prefer to work through the high operating official rather than the engineer or architect, as the latter two are governed by the desire of their principal. The results we obtain in this way are surprising and men of large affairs and the heads of successful plants lend a willing ear to our arguments.

**Getting a
Line on
"Prospects"**

You will see, however, that we do not wait until we hear of a new plant to be built, but we find a far larger field in old plants, where floor areas subject to replacement are of greater importance. We watch the trade and building news items closely for mention of new plants to be erected, but we give equal attention to the old building.

**Laying the
Foundation
for an Order**

Generally, our salesmen go directly to the superintendent or some other high operating official and interest him in our product. Pictures of installation play an important part and it is seldom hard to arrange to go into the plant with the superintendent. In the majority of cases, once on the ground, we have little trouble in showing where a creosoted block floor will be an asset in securing efficiency. We do not try to do more than this on our first call and seldom do we leave literature on the subject unless requested. However, our salesman reports each day on the calls he has made, and the district office writes confirming the conversation and sending literature. Our idea being that when accompanied by a letter, a booklet will be filed for future reference and possibly studied, whereas, a large percentage of the booklets left during the first call find their way into the waste basket. Another means of securing results is to make direct reference, stating names of officials operating other plants, in kindred lines, and request that the superintendent communicate with these parties and secure first-hand in-

formation on the subject. Once we have an interested prospect, we do not let him rest. We have a follow-up system that regularly keeps in touch with the prospect and we attempt to arrive at a point where he can see nothing else but a wood block floor. We have instances on file of a four-year campaign before we finally closed the business. But we got it.

There was a time, when we first started on our floor business, that we had to go at a man with certain set arguments and secure his attention through sheer force of salesmanship, but I am happy to say that today we do not find one in fifty who is not familiar with a wood block floor and generally readily admits its perfection. Price is the largest stumbling block and one that is not easily surmounted, and we must demonstrate to our prospect where the ultimate economy warrants the additional first cost. Then, too, we frequently find some men who are confirmed concrete advocates. In that event, a walk through their plant with them gives us opportunity to point out his cracked and patched floor surface, which invariably is to be found where heavy material is handled by hand or on trucks. Should his plant have large, expensive machinery, we call his attention to the fact that the dusting of a cement floor is a poor lubricant and rays of sunshine give graphic visual proofs of the dusting of his floor. This, however, has to be handled diplomatically, or in place of gaining a convert, you will make an enemy. Every crow thinks its chick the blackest, and plant superintendents do not vary the rule.

Cold wearing surfaces are hard on labor, and in the winter you will find machinists with lengths of board, a piece of carpet, or a burlap sack under their feet, and in one case a plant went so far as to provide cocoa mats for their men to stand on. All this litters a floor, furnishes a means that frequently causes serious accidents, due to men tripping and falling into moving machine parts. A concrete floored plant requires a larger consumption of coal to heat than does one with a creosoted wood block floor. Wood is a non-conductor. Oil will not damage a creosoted wood block floor. Neither does it show stain from oil drippings and is impervious to water or acids when properly laid. Being black, a creosoted wood block floor does not reflect light nor does it radiate heat. We have installed a creosote wood block floor in a plant where the temperature of the concrete floor slab is 145 degrees, an impossible condition for a man to work on, except for the insula-

**Price the
Only Obstacle
to Wood
Block Sales**

**Points of
Superiority
of Wood
Block Floors**

tion afforded by the block. Fatigue, due to cement, brick or other hard surfaces, is a matter which reduces the general efficiency of every man, called to work for eight hours, standing at a machine. You will never find the plant office cement floored that you don't find it carpeted, and yet plant owners will ask their labor to pass eight hours of each day on cement and expect high efficiency. The plant management recognizes these facts and are not slow to admit their truth, and each day sees new wood block advocates.

Breakage of castings and parts, and the saving in dulled tools are points of serious interest. Ask a plant superintendent to show you his scrap pile and you will find food for argument that he cannot refute, and best of all, he knows it.

You may ask why I continually refer to the superintendent. He is the man nearest to the actual shop operation and is the man with the big say. Get him interested and you have half the battle won. He will listen to your arguments on service and is generally a firm believer in quality. Once you have him won over, it is a matter of buying, but don't forget that he dictates the purchase.

I will briefly name over some of the places where creosoted wood blocks can be used to best advantage. Any plant, where heavy material is handled, is our largest field. Every type of metal manufacturing plant can use and needs a creosoted wood block floor. Among the lighter service conditions are breweries, bakeries and hotel kitchens. Wood block installations are in all of these, but the areas are small and the installations few. Railroad shops, freight houses, and platforms offer a large, fertile field. Barns and farm buildings, while in most cases offering limited yardage in single installations, make up for their deficiency by their number. Concrete is killing to cattle when put under them and requires heavy bedding. Creosoted wood blocks make an easy floor to install and are warm under cattle and hogs, make a sanitary floor and one that is easily cleaned.

There isn't a retail lumber yard in any small town that can afford to be without a stock of blocks for this purpose and the volume of business they can secure, once they put in a stock, and advertise the fact, will be gratifying in the extreme. It is here that you gentlemen, through your small town lumber yard, can secure a pleasing volume of business.

It is largely due to the ease with which cement can be secured that concrete floors in barns have become so general and it is here

**Wood Block
Floors Save
Breakage**

**The Man with
the Big Say**

**Every Lumber
Yard Should
Carry Blocks
in Stock**

that the retailer can develop a field worthy of his best efforts, and at the same time benefit his customers by giving them something better than they have ever used.

I am not familiar with the class of stock usually sold for plank floor purposes. I imagine, however, that it seldom runs over 2 inches in thickness. Let us figure the matter in a different way. On a floor of 1,000 square yards there would be needed approximately 19,000 feet B. M. of 2-inch flooring were plank used; on the other hand, figuring on 2½-inch blocks (the lightest block made for shop floors) there would be 24,500 feet B. M., and with a standard 3-inch block 27,000 feet B. M., or an increase of lumber consumption of 5,500 feet B. M. as a minimum or 8,000 feet B. M. as a standard. From the viewpoint of the lumber manufacturer, this should be of vital interest, as it means a large increase in your cut, were block used in substitution for plank, beside the fact that the plant with a yellow pine floor today is a rarity and fast becoming more of one.

**More Wood
Used in
Block Floors**

Ten Reasons *for the* Sale of Wooden Silos

By J. Lewis Thompson

Chairman Silo Committee, Southern Pine
Association
Houston, Texas

First, and principal reason, is because we, as lumber manufacturers, can furnish the material.

Second—If all silos being built each year (figuring the last five years as an average), were built of yellow pine it would require 150,000,000 feet of yellow pine lumber for silos alone.

Third—The building of silos leads to the further use of lumber by the builder:

**Silo Building
Increases
Other Uses
of Lumber**

- (a) Dipping vats.
- (b) Feed and water troughs.
- (c) Stock pens.
- (d) Better barns.

All to the extent that it is estimated by some of the close students in silo and stock raising that the investment in silos in a community will lead in many instances to an awakening and start a building era or campaign with the result that the silo sale will cause a double quantity of lumber to be used.

Fourth—The sale of silos is a specialty and the wooden silo manufacturers should be cultivated by both the lumber salesman and retail lumber dealers for the reason that the sale of silos means further use of lumber, and the dealer will get to furnish this lumber. It is not to the interest of the dealer that substitutes be used because building of cement silos means cement dipping vat, water troughs, etc.

Fifth—A silo should be built out of wood because it will preserve ensilage in a more satisfactory manner than a silo built out of any other material. Wood is a non-conductor, therefore, ensilage will cure and keep better in a wooden silo, and leaves your ensilage in a sweeter and more perfect condition, therefore reduces spoiled ensilage to a minimum.

Sixth—It is easier to repair a wooden silo. By this I mean that should a cement or tile silo show a defect in some part of it, it would be a whole lot harder to repair than it would if a defect should show up in a wooden silo, because about all you would have to do in a wooden silo would be to put in some new staves.

Seventh—A wooden silo can be erected at a much less cost and if a man wanted to move a silo from a certain part of the farm to another, he can certainly move a wooden silo a great deal easier than he could a silo made out of any other material.

Eighth—The difference in the cost of a wooden silo as compared to any other silo having the same capacity is enough less to maintain the upkeep of the wooden silo, and the user has as his profit interest charges on the additional outlay, and, it is estimated, about 10 per cent more ensilage.

Ninth—The wooden silo has a known life of twenty-five years, and it is not certain that either steel or cement would last so long. Some authorities maintain that wood has the longest life for ensilage.

Tenth—The wooden silo can supply the small users (feeding as few as ten head) requiring silos of fifty tons capacity and less. Then big development of the future will come from this source.

**The Sale
of Silos
a Specialty**

**Superior
Points of
the Wood
Silo**

Some Arguments Supporting the Ten Reasons for Wooden Silos.

One manufacturer writes as follows:

"A case of more than ordinary interest has just come to my attention. Mr. of, who is in the lumber business in some capacity, two years ago bought an Imperishable Vitrified silo, as he wanted something that would last for all time and would not give him any trouble. Last week he offered to give it away to anyone who would remove it, and one of his neighbors has offered to take it down and will use the block for building a foundation for a hog house. It seems to me that inasmuch as he was in a sense knocking his own game that it serves him about right, and he might give you something which would be of advantage to you if you would go after him the right way. We have not yet secured his order for a silo, although we fully expect to do so."

**Arguments
Supporting
the Ten
Reasons for
Wooden
Silos**

Another authority has this to say:

"The main reason for wood silos is because wood makes a better silo for the purpose for which silos are built; that is, to preserve green feed in a sweet and palatable condition for cattle. Now, if a wood silo is properly taken care of, that is, if it is roofed and painted on the outside and the anchors are put on as any manufacturer suggests on his particular kind of building, it will be a building that will keep sweet, palatable ensilage for a great many years. We have been in the silo business now fourteen years and our oldest silos that have been only fairly well taken care of are still performing this function. We know of no other substitute which has been used this long or even half so long that has not had a great deal of complaint, and this complaint, wherever I have investigated, has been because of more or less spoilage of ensilage."

**Wooden
Silos Pre-
serve Green
Feed Best**

"Now, the thing I have seen about the masonry silos that are built up, such as tile, brick, cement block, cement stave, etc., is that the mortar is usually of such material that it soon cracks or crumbles away, leaving small or large holes between the joints all through the silo. The stave silo, when the joint gets open, merely have to have the hoops tightened, which eliminates these openings or cracks. They cannot be eliminated when mortar crops out of the joints in the brick, cement or tile silo wall. The steel silo has not come into much prominence because it is very

expensive and so far they have never made a good joint, so that the leakage at the joints has been so bad they have not been considered much in the silo world. Should they be built like steam boilers, riveted tight, they could probably eliminate this, but the cost would then be prohibitive.

Faults of Other Silos

"Now the main business reason that we find appeals to the farmer as to why he should build a wood stave silo rather than a so-called permanent construction of cement, brick, tile or cement stave, is that the cost of a good wood stave silo is from one-half to two-thirds the cost of a silo of the same size built of the so-called permanent construction. For instance, say a wood stave silo cost \$200 and the same in masonry \$350, the other \$150 invested in a good bull or in two good cows or in a bunch of calves would make the farmer so much money that in the course of four or five years he could easily build another silo with the profit made from the difference in the investment, and, after all, the majority of buyers of silos are men who cannot afford to throw away \$150 just to have a fancy, high priced building on their farms."

Economy of the Wooden Silo

A general sales manager for one of the largest silo manufacturers in the West has this to say:

"One of our arguments which is used quite effectively by our salesmen is the fact that should a stave silo blow down, which is about the only objection you ever hear to a stave silo, it can be re-erected or rebuilt with but little cost, whereas if a masonry silo cracks or goes to the bad, if a metal silo blows down or is decayed from the action of the acids which are developed in the ensilage, if a block silo foundation settles and causes it to break open; the loss is almost an entire loss; it cannot be patched up or rebuilt and the owner is daily reminded of the fact that he made a bad buy in the original purchase of his silo.

Repairs Easy in Wooden Silos

"Another feature, which is in favor of wood stave silos, is the fact that the silo manufacturer of other materials realizes that it is impossible for him to compete with us so far as price is concerned, hence they advocate a larger silo than is practical. They talk and recommend silos of 200 tons capacity and up, which, of course, figures cheaper per ton on a tonnage basis than a silo of 100 tons capacity. You can readily see the difference as shown."

Cutting Out *the* Traveling Salesman

From "Commerce and Finance," June 21, 1916.

There has been an ardent discussion in many trade lines over the question whether the traveling salesman was not becoming a useless factor owing to the widespread use of the multitude of forms of advertising. Some of the parties at interest believe the day of the traveling salesman is nearly done; others insist that much of the advertising is wasted and that between the need of keeping men on the road and the necessity for heavier and heavier advertising to keep up with the broader competition the cost to the sales department is increased.

Life would be bleak, if not barren, in many small cities and jerkwater towns if the commercial traveler should disappear from the business life of America. The railroads and the hotels would suffer. The drummer is too much of an institution to be wiped out. He has his virtues and his vices. He has sinned, perhaps, in misrepresentation and has made life woeful for many a retailer who was impressed by his suavity and his persistence. Too many of them, no doubt, considered their mission was to sell goods and that it was the buyer's affair and not theirs if he happened to be deceived. But there have been honest, upright men among them. Lots of them. The traveling salesman is not needless. His sphere is contracting, but there are many, many thousands of drummers "on the road" today and there will be many thousands for years to come. One commercial travelers' organization has 48,000 members. The weekly and monthly publications, the greater use of printed and illustrated advertising matter, the form letter and many styles of printed appeal have made him less of a power, but he still remains a power. There is great potency in personal solicitation. There is great potency in advertising, also. There has been waste, much waste, in the drummer's work, just as there has been and there is now in various kinds of advertising. One of the greatest advances in advertising has been in its increased honesty. The cleaner and the more absolutely honest it becomes the more powerful it will become. The drummer, too, has given up many of his bad ways.

**The Salesman
An Institution**

**The "Drum-
mer" Still
a Power**

Honesty has proven to be the best policy in American selling.

The traveling salesman once had the field almost to himself. He has tremendous competition today. He is not going to be wiped out, but he will improve in his character and serve well his somewhat more restricted field.

Roll of Attendance at the School of Salesmanship

ALLEN, J. B.	W. T. Ferguson Lumber Co.	Centralia, Ill.
AUSTIN, G. N.	Kirby Lumber Company	Chicago, Ill.
ASH, CHARLES S.	Long-Bell Lumber Co.	Topeka, Kansas.
ALLISON, F. E.	Sabine Lumber Co.	
ANSON, MARK.	Mo. Lbr. & Land Exch. Co.	Muscatine, Iowa
ALTMAN, H. P.	La. Red Cypress Company	Chicago, Ill.
AINSWORTH, G. W.	Southern Lumber Company	Marshalltown, Ia.
ATKINSON, C. G.	Great Southern Lbr. Co.	Indianapolis, Ind.
ASHTON, C. J.		Detroit, Mich.
ARNOLD, S. W.	Mills & Arnold.	Kirksville, Mo.
AFFLECK, R. G.	Central Coal & Coke Co.	Kansas City, Mo.
ANDERSON, L. B.	St. Tammany Lbr. Mfg. Co.	Memphis, Tenn.
AUSTIN, J. H., JR.	W. R. Pickering Lbr. Co.	Kansas City, Mo.
ARNOLD, A. F.	Long-Bell Lbr. Co.	Amarillo, Texas
BEARDSLEY, A. H.	Antrim Lumber Co.	St. Louis, Mo.
BONNER, B. F.	Kirby Lumber Co.	Houston, Tex.
BARROW, E. L.	Kirby Lumber Co.	El Paso, Tex.
BERGER, FRED.	Long-Bell Lumber Co.	Kalamazoo, Mich.
BROWNE, R. E.	Kirby Lumber Co.	New York City
BARRETT, D. M.	World's Salesmanship Congress	Detroit, Mich.
BARWICK, S. E.	Long-Bell Lumber Co.	Chicago, Ill.
BEEBE, W. M.	Long-Bell Lumber Co.	Kansas City, Mo.
BORRESEN, JULES T.	Long-Bell Lumber Co.	Pine Bluff, Ark.
BAIRD, W. N.	Vredenburgh Saw Mill Co.	Vredenburgh, Ala.
BELL, W. H.	National Lbr. Mfgs' Assn.	St. Louis, Mo.
BATCHELDER, J. D.	Frost-Johnson Lbr. Co.	Shreveport, La.
BRASHEAR, T. F.	Frost-Johnson Lbr. Co.	Hearne, Tex.
BLISS, V. E.	Frost-Johnson Lbr. Co.	Des Moines, Iowa
BUCKNER, H. G.	Frost-Johnson Lbr. Co.	St. Louis, Mo.
BEARDEN, R. B.	Frost-Johnson Lbr. Co.	Cleveland, Ohio
BEARD, C. C.	Southern Lumber Co.	Chicago, Ill.
BOWER, E. G.	W. R. Pickering Lbr. Co.	Dallas, Tex.
BLAKE, THOMAS W.	South Texas Lumber Co.	Houston, Tex.
BOEHNE, E. E.	International Creosoting & Construction Co.	Galveston, Tex.
BULTMAN, WILLIAM H.	Natalbany Lbr. Co. (Ltd.)	Indianapolis, Ind.
BISSELL, S. B.	Wausau Southern Lbr. Co.	Laurel, Miss.
BISSELL, M. H.	Marathon Lbr. Co.	Laurel, Miss.
BITTING, DR. CHAS. W.	Pastor Sec'd Baptist Church	St. Louis, Mo.
BURGOYNE, C. R.	Bagdad Land & Lbr. Co.	Pensacola, Fla.
BOSTWICK, R. H.	Ship Island Lumber Co.	Sanford, Miss.
BARKER, H. W.	Southern Lumber Co.	Waterloo, Iowa
BARTLETT, D. H.	Southern Lumber Co.	Sioux City, Ia.
BOWMAN, C. A.	Hall & Legan Lumber Co.	St. Louis, Mo.
BROWN, E. W.	Southern Pine Association	New Orleans, La.
BIEDERMAN, W. F.	Natl. Lbr. Mfgs' Credit Corporation	St. Louis, Mo.
BOYD, JAMES.	Lumber Trade Journal	New Orleans, La.
BOWMAN, H. J.	Hall & Legan Lumber Co.	Indianapolis, Ind.
BROOKS, ROBERT H.	Arkansas Soft Pine Bureau	Little Rock, Ark.
BARNES, H. M.	Mo. Lbr. & Land Exc. Co.	Kansas City, Mo.
BRINKMAN, BERT.	Oniel-Wites Lumber Co.	St. Louis, Mo.

BOYKIN, L. J.....	Gulf Lumber Co.....	Houston, Tex.
BARRY, W. M.....	Central Coal & Coke Co....	Galesburg, Ill.
BRIGHT, O. O.....	O. O. Bright.....	St. Louis, Mo.
BRANTLEY, JACK E.....	Great Southern Lbr. Co....	Chicago, Ill.
BAY, M. C.....	Bay Bros. Lumber Co.....	St. Louis, Mo.
BEHAN, W. L.....	Southern Pine Lumber Co..	St. Louis, Mo.
BUHMANN, W. J.....	Keith Lumber Company...	Voth, Texas
BODKIN, J. A.....	Kane Lumber Company...	Birmingham, Ala.
BOWERS, FRED J.....		Mansfield, Ohio
BARKSDALE, C. A.....	Gilchrist-Fordney Company	Laurel, Miss.
BARNES, F. R.....	St. Louis Lumberman.....	St. Louis, Mo.
BODWELL, D. R.....	Long-Bell Lumber Co.....	Kansas City, Mo.
BALDWIN, O. E.....	F. G. Hanly Cypress Co....	St. Louis, Mo.
BUCKLEW, L. L.....	Recent U. S. Agent to South America.....	St. Louis, Mo.
BRIDGES, R. C.....	M. Garrett Lumber Co.....	St. Louis, Mo.
BOYLE, L. C.....	Spec. Counsel So. Pine Assn.	Kansas City, Mo.
COLIN, W. ELMO.....	Consolidated Saw Mills Co.	Tulsa, Okla.
CAHILL, R. E.....	Kirby Lumber Company...	San Antonio, Tex.
CLARK, R. C.....	Tremont Lbr. Co.....	Chicago, Ill.
CRANE, C. D.....	Kirby Lbr. Co.....	Columbus, Ohio
COOL, J. E.....	Gulf Lumber Company...	East St. Louis, Ill.
CHIPMAN, J. B.....	Frost-Johnson Lumber Co.	St. Louis, Mo.
CONDIT, C. F.....	Frost-Johnson Lumber Co.	Detroit, Mich.
CARROLL, A. J.....	J. J. Newman Lbr. Co.....	Hattiesburg, Miss.
COLVIN, W. E.....	Consolidated Saw Mills Co.	Tulsa, Okla.
CLEMENTS, GEO. G.....	Consolidated Saw Mills Co.	Marengo, Iowa
CRAWFORD, O. E.....	W. T. Ferguson Lbr. Co....	Indianapolis, Ind.
CROOK, HARRY.....	Sabine Lumber Company...	St. Louis, Mo.
CASTLEN, GEO.....	Sabine Lumber Company...	St. Louis, Mo.
COUNCIL, F. S.....	Natalbany Lbr. Co. (Ltd)	Jackson, Miss.
CORRINGTON, W. J.....	Sabine Lumber Company...	St. Louis, Mo.
COOPER, JOHN R.....	J. J. Newman Lumber Co.	Paducah, Ky.
COOK, BERT E.....	Mo. Lbr. & Land Exc. Co...	Chicago, Ill.
CARSON, McMILLAN.....	Marathon Lumber Co.....	Aurora, Ill.
CARROLL, D. S.....	Sabine Lumber Company...	St. Louis, Mo.
CALE, DAVE H.....	California Sugar & White Pine Co.....	Wichita, Kan.
CUST, R. M.....	Lumber Mineral Company.	Arbo, Miss.
CUMMINGS, A. E.....	W. I. McKee Lumber Co...	Kansas City, Mo.
CHRISTY, JOHN.....	Hall & Legan Lbr. Co.....	Alton, Ill.
CAMPBELL, F. H.....	Peavy-Byrnes Lbr. Co.....	Shreveport, La.
CROZIER, R. O.....	Gulf Lumber Company...	Ft. Worth, Tex.
CONNER, D. H.....	Long-Bell Lumber Co.....	Ft. Worth, Tex.
CONNER, A. B.....	Long-Bell Lumber Co.....	San Antonio, Tex.
CARRE, TUDOR B.....	W. W. Carre Co. (Ltd)...	New Orleans, La.
CHAFFEE, C. L.....	Mo. Lbr. & Land Exc. Co...	Norfolk, Neb.
CASE, L. S.....	Southern Lumber Co.....	St. Paul, Minn.
CRAWFORD, O. E.....	W. T. Ferguson Lbr. Co....	Indianapolis, Ind.
CRAWFORD, J. E.....	Louisiana Saw Mill Co....	Lake Charles, La.
CLARK, GEO. S.....	Tremont Lumber Co.....	Winfield, La.
CAUTEN, E. F.....	Southern Lumber Co.....	Dubuque, Iowa
DIONNE, J. C.....	Gulf Coast Lumberman....	Houston, Tex.
DEMUTH, H. L.....	Industrial Lumber Co.....	Elizabeth, La.
DUPAGE, R. P.....	Kirby Lumber Company...	Kansas City, Mo.
DENMAN, W. F.....	Kirby Lumber Company...	Kansas City, Mo.
DUNHAM, F. V.....	Southern Pine Association..	New Orleans, La.
DIX, WILL C.....	Long-Bell Lumber Co.....	Memphis, Tenn.
DRIPPS, W. B.....	Frost-Johnson Lumber Co..	Indianapolis, Ind.
DAVIDSON, NEAL.....	Sabine Lumber Company...	St. Louis, Mo.

DUMM, A. A.....Sabine Lumber Company..Houston, Tex.
 DIERKS, H. L.....Dierks Lumber & Coal Co....Kansas City, Mo.

DARLING, E.....Wausau Southern Lbr. Co...Elkhart, Ind.
 DILLING, J. J.....The Stout Lumber Co.....Thornton, Ark.
 DONNER, J.....S. H. Bolinger & Co.....Shreveport, La.
 DULANY, GEO. W.....Mo. Lbr. & Land Exc. Co....Lafayette, Ind.
 DEGENHART, H. J.....Mo. Lbr. & Land Exc. Co....St. Louis, Mo.
 DIAMOND, J. E.....Mo. Lbr. & Land Exc. Co....Cleveland, Ohio
 DOLLARHIDE, E. M.....Gates Lumber Company....Chicago, Ill.
 DICKINSON, GEO. I.....Dickinson Lumber Co.....Indianapolis, Ind.
 DIXON, WM.....Payton Lbr. & Supply Co. St. Louis, Mo.

ESTES, W. M.....Industrial Lumber Co.....Temple, Tex.
 EVANS, CHAS. A.....W. R. Pickering Lbr. Co...Waco, Tex.
 ELBRING, W. H.....J. J. Newman Lbr. Co....St. Louis, Mo.
 EATON, H. C.....Long-Bell Lumber Co.....Waco, Tex.
 EDDY, J. H.....Kaul Lumber Company....Birmingham, Ala.
 ESTES, T. H.....Eastman, Gardiner & Co...Nashville, Tenn.
 EATON, R. K.....Mo. Lbr. & Land Exc. Co.Des Moines, Ia.
 EICHOFF, D. J.....American Lumberman....Chicago, Ill.
 EMBREE, J. W.....Arkansas & Richton Lbr. Co.Chicago, Ill.
 EAKIN, J. R.....Edgar Lumber Company...St. Louis, Mo.
 ELDER, E. F.....Grayson-McLeod Lbr. Co. Wichita, Kan.
 ECKHARD, E. B.....F. G. Hanly Cypress Co....Carbondale, Ill.

FARNAN, W. E.....Kirby Lumber Company...Houston, Tex.
 FULLERTON, S. H., JR...Gulf Lumber Company....East St. Louis, Ill.
 FOEMER, J. F.....Frost-Johnson Lumber Co.Ft. Worth, Tex.
 FARIES, R. O.....Kirby Lumber Company...Houston, Tex.
 FERGUSON, J. W.....Sabine Lumber Company...St. Louis, Mo.
 FERGUSON, J. D.....Sabine Lumber Company...St. Louis, Mo.
 FRANKE, C. S.....Sabine Lumber Company...St. Louis, Mo.
 FELLOWS, W. C.....Kaul Lumber Company....Birmingham, Ala.
 FARLEY, J. D.....La. Red Cypress Co.....Cincinnati, Ohio.
 FRIEND, GEO.....Southern Lumber Co.....Des Moines, Ia.
 FINCH, J. E.....Southern Lumber Co.....Warren, Ark.
 FOSTER, E. E.....Pennington-Foster Co....Houston, Tex.
 FOSTER, H. L.....Fordyce Lumber Company. Fordyce, Ark.
 FOSTER, G. W.....Gates Lumber Company....Wilmar, Ark.
 FERGUSON, E. D.....Southern Lumber Company Blytheville, Ark.
 FARGUHOR, J. S.....J. S. Farguhor Lbr. Co....Fredericktown, Mo.
 FERRY, WALLACE J.....Ferry-Hanly-Schott Adv.
 Co.....Kansas City, Mo.

GODDARD, L. B.....Cordia Timber Co.....Pharlock, Mo.
 GILLESPIE, A. J.....Lothman Cypress Co.....St. Louis, Mo.
 GAGAN, J. H.....Tremont Lbr. Co.....Winfield, La.
 GREEN, CHAS. W.....Long-Bell Lumber Co....Toledo, Ohio
 GRAY, THOS.....Kirby Lumber Company...Buffalo, N. Y.
 GOPPEL, FRANK.....Gulf Lumber Company....East St. Louis, Ill.
 GRAY, JOS. P.....Sabine Lumber Company...St. Louis, Mo.
 GLASSOW, A. J.....Wausau Southern Lbr. Co.Laurel, Miss.
 GRISSOM, HERBERT.....Ferry-Hanly-Schott Adv.
 Co.....Kansas City, Mo.
 GLASGOW, M. M.....Bagdad Land & Lbr. Co...Bagdad, Fla.
 GREGG, HUBERT.....La. Red Cypress Co.....Indianapolis, Ind.
 GLADDING, N. A.....E. C. Atkins & Company..Indianapolis, Ind.
 GRONEU, J. W.....Weyerhaeuser Sales Co....Cedar Rapids, Ia.
 GEARHEARD, O. E.....Dibert, Stark & Brown
 Cypress Company.....Donner, La.
 GIBBONS, J. G.....J. J. Newman Lumber Co.Scranton, La.

GRIFFIN, RANSOM.....Central Coal & Coke Co...Kansas City, Mo.
 GODFREY, E. C.....H. I. Isbell.....Elkhart, Ind.
 GODLEY, W. L.....W. R. Pickering Lbr. Co. Wichita, Kan.
 GRAVES, PERRY H.....Natalbany Lbr. Co.....Springfield, Ill.
 GERBER, FRED A.....Ganahl Lumber Company...St. Louis, Mo.
 GRAYSON, ED.....Ozan-Graysonia Lbr. Co...St. Louis, Mo.
 GARRETT, T. H., JR.....T. H. Garrett Lbr. Co...St. Louis, Mo.
 GREEN, CHAS.....Eastman, Gardiner & Co...Laurel, Miss.

HANFORD, THOS....W. T. Ferguson Lbr. Co...Chicago, Ill.
 HODGE, O. E.....Huie-Hodge Lbr. Co.....Hodge, La.
 HALLOWELL, R. M.....Industrial Lumber Co.....Elizabeth, La.
 HILZHEIM, H. G.....Tremont Lumber Co.....Jackson, Miss.
 HONNES, WILLIS.....Long-Bell Lumber Co.....Oklahoma City, Ok.
 HATCHER, J. H.....Kirby Lumber Company...Kansas City, Mo.
 HOUSTON, GEO.....Long-Bell Lumber Co.....Cleveland, Ohio
 HESS, WM.....Gulf Lumber Company...East St. Louis, Ill.
 HOUSTON, A. M.....Gulf Lumber Company...East St. Louis, Ill.
 HICKS, W. T.....Gulf Lumber Company...Detroit, Mich.
 HENRY, W. L.....Gulf Lumber Company...Springfield, Ill.
 HANGER, C. M.....Frost-Johnson Lumber Co.Morocco, Ind.
 HERD, J. F.....Consolidated Saw Mills Co..St. Louis, Mo.
 HURST, E. J.....Homochitto Lbr. Co.....Bude, Miss.
 HEYL, JAS. H.....Eastman, Gardiner & Co..Columbus, Ohio
 HEROIG, OTTO.....Wausau Southern Lbr. Co.Peoria, Ill.
 HOOVER, H. A.....La. Red Cypress Co.....Ashley, Ill.
 HOOPER, L. E., JR.....La. Red Cypress Co.....Memphis, Tenn.
 HUEY, N. H.....Oregon Lumber Company.Chicago, Ill.
 HEDLUND, O. L.....Southern Lumber CompanySioux City, Ia.
 HOYT, H. H.....La. Red Cypress CompanySt. Joseph, Mo.
 HUDDLESTON, L. B.....Seattle Cedar Lbr. Mfg. Co..Cleveland, Ohio
 HOWLAND, W. C.....Lumber World Review....St. Louis, Mo.
 HEITERT, E. L.....Dibert Stark & Brown

Cypress Co.....St. Louis, Mo.
 HOWE, WILLARD C.....American Lumberman....Chicago, Ill.
 HILLIARD, J. A.....Burton-Swartz Cypress Co.
 of Florida.....Perry, Fla.
 HOUCK, C. H.....Southern Lumber CompanyWarren, Ark.
 HOUCK, H. B.....Southern Lumber CompanyPoplar Bluff, Mo.
 HALE, M. J.....Central Lumber Company.Brookhaven, Miss.
 HILTORS, E. R.....Crossett Lumber Company.Hirron, Ohio
 HOLLOWAY, J. T.....Huie-Hodge Lumber Co..Hodge, La.
 HINES, EDWARD.....Edward Hines Lumber Co..Chicago, Ill.
 HAYNES, HENNER.....Great Southern Lumber.Co..Memphis, Tenn.
 HAYNES, W. P.....Hinton Bros. Lumber Co..Lumberton, Miss.
 HAYWARD, H. W.....Long-Bell Lbr. Co.....Kansas City, Mo.
 HILL, A. M.....Southern Pine Lumber Co.St. Louis Mo.
 HAMILTON, A. L.....Mo. Lbr. & Land Exc. Co.Indianapolis, Ind.
 HINTZ, J. E.....Southern Pine Lbr. Co....Texarkana, Texas
 HARRISON, T. W.....St. Louis Lumberman....St. Louis, Mo.
 HUNTER, R. O.....Homochitto Lumber Co...Springfield, Ill.
 HILL, R. E.....Long-Bell Lumber Co.....Kansas City, Mo.
 HARWOOD, T. F.....W. S. Harwood Lbr. &
 Coal Co.....Bloomington, Ill.

ISBELL, G. L.....W. M. Cady Lumber Co...McNary, La.
 ISBELL, C. B.....Crossett Lumber Company.Elkhart, Ind.
 ISBELL, E. E.....Southern Pine Lbr. Co.....Texarkana, Ark.
 ISBELL, H. I.....Finkbine Lumber Co.....Elkhart, Ind.
 IRWIN, H. G.....Erie Lumber Company...Erie, Pa.
 IGOU, H. T.....Kirby Lumber Company...Hutchinson, Kan.
 IROME, RAY W.....Southern Pine Lumber Co.Centralia, Ill.

- JENNINGS, C. P.....Berthold-Jennings Lbr. Co.. St. Louis, Mo.
 JENNINGS, C. J.....Kirby Lbr. Co.....Alice, Texas
 JONES, HARRY D.....Long-Bell Lumber Co.....Kansas City, Mo.
 JONES, GEO. M.....Long-Bell Lumber Co.....Wheeling, W. Va.
 JOHNSON, BOLLING A.....Lumber World Review....Chicago, Ill.
 JOHANNINGMEIER, A. C.....Gulf Lumber Company.... East St. Louis, Ill.
 JOHNSON, C. D.....Frost-Johnson Lumber Co. St. Louis, Mo.
 JACKSON, R. O.....Consolidated Saw Mills Co..Dallas, Texas
 JAMES, HOYT.....Gulf Lumber Company.... Houston, Texas
 JONES, J. E.....Southern Pine Association..New Orleans, La.
 JOSEPH, J. A.....Retail Lumberman.....Kansas City, Mo.
 JOHNSON, C. D. JR.....Frost-Johnson Lumber Co. St. Louis, Mo.
 KING, L. G.....Tremont Lumber Company..Winfield, La.
 KNOWLES, C. L.....Long-Bell Lumber Co.....Kansas City, Mo.
 KENDALL, J. A.....Kirby Lumber Company...Peoria, Ill.
 KREBS, DR. S. L.....Philadelphia, Pa.
 KUEHNLE, FRED C.....Long-Bell Lumber Co.....Cleveland, Ohio
 KIRBY, JIM.....Southern Lumberman..... New Orleans, La.
 KENDALL, H. T.....Kirby Lumber Company...Houston, Texas
 KENNEDY, J. H.....J. J. Newman Lbr. Co....Hattiesburg, Miss.
 KOZA, E. G.....J. J. Newman Lbr. Co....Quincy, Ill.
 KRAUSS, EDWARD E.....Industrial Lumber Co.....Elizabeth, La.
 KRAUSS, A. J.....St. Tammany Lbr. Mfg. Co..New Orleans, La.
 KAUL, JOHN L.....Kaul Lumber Company...Birmingham, Ala.
 KEITH, CHAS. S.....Central Coal & Coke Co..Kansas City, Mo.
 LOTHMAN, WM., JR..Lothman Cypress Company. St. Louis, Mo.
 LENNOX, F. J.....Kirby Lumber Company...Waco, Texas
 LACY, V. M.....Kirby Lumber Company... St. Louis, Mo.
 LANE, J. H.....Long-Bell Lumber Co..... New York, N. Y.
 LAUGHLIN, C. J.....Long-Bell Lumber Co..... Lake Charles, La.
 LONG, A. C., JR.....Long-Bell Lumber Co.....Indianapolis, Ind.
 LOWE, B. H.....Gulf Lumber Company.... St. Louis, Mo.
 LINNEMAN, H. E.....Gulf Lumber Company.... Fast St. Louis, Ill.
 LEMONS, C. E.....Gulf Lumber Company.... Aurora, Ill.
 LOVITT, I. A.....Industrial Lumber Co..... Temple, Texas
 LEMMONS, E. B.....J. J. Newman Lumber Co..Hattiesburg, Miss.
 LANDON, V. P.....Brooks-Scanlon Company..Indianapolis, Ind.
 LATIMER, J. D.....International Creosoting &
 Construction Co.....Galveston, Texas
 LANEHART, P. M.....Eastman, Gardiner & Co..New York, N. Y.
 LAMONT, A. E.....Arkansas Land & Lbr. Co...Malvern, Ark.
 LANG, JAMES H.....Central Coal & Coke Co.... Kansas City, Mo.
 LOCKMAN, ADAIR.....The German Company.... Chicago, Ill.
 LOGAN, M. J.....Brooks-Scanlon Company..Kentwood, La.
 LANFORD, THEO. W.....Chicago Lbr. & Coal Co.
 of Washington.....Kansas City, Mo.
 LINGHAM, L. C.....Homochitto Lumber Co..Cleveland, Ohio
 LAWRENCE, P. J.....P. J. Lawrence Lbr. Co..St. Louis, Mo.
 MCCOOLE, A. F.....Hill-Behan Lumber Co.... St. Louis, Mo.
 MCCLELLAND, E. M.....Sabine Lumber Company..St. Louis, Mo.
 MCGILL, K. E.....Mo. Land & Lbr. Exc. Co..Chicago, Ill.
 MCLEOD, NELSON W.....German Savings Institution..St. Louis, Mo.
 MCCARTHY, J. T.....Kirby Lumber Company...Houston, Texas
 MCCLAUGHLIN, HUGH S.....Wausau So. Lbr. Co.....Jackson, Miss.
 MCCracken, G. P.....Kaul Lbr. Co.....Birmingham, Ala.
 McDONNELL, L. T.....American Lumberman..... New Orleans, La.
 MCCLURE, C. K.....Hall & Legan Company..St. Louis, Mo.
 McVEY, C. B.....Eastman, Gardiner & Co..Washington, Ill.
 McKEE, R. E.....Long-Bell Lumber Co.... St. Louis, Mo.

McCOOLE, A. F.....	Southern Pine Lumber Co.	St. Louis, Mo.
McGILL, E. H.....	Mo. Lbr. & Land Exc. Co.	Kansas City, Mo.
McKEE, H. L.....	Chicago Lbr. & Coal Co.	of Washington..... Kansas City, Mo.
McDONNELL, SUMNER...	M. W. McDonnell & Sons.	Chicago, Ill.
MILLER, J. H.....	Kirby Lumber Company...	Dallas, Texas
MOSES, JOHN E.....	Long-Bell Lumber Co.....	Oskaloosa, Ia.
MAUK, E. H.....	Kirby Lumber Company...	Toledo, Ohio
MEREDITH, D. R.....	Long-Bell Lumber Co.....	Toledo, Ohio
MOORE, R. L.....	Long-Bell Lumber Co.....	Houston, Texas
MOLT, A. J.....	Frost-Johnson Lumber Co.	St. Louis, Mo.
MEYER, J. A.....	Consolidated Saw Mills Co.	St. Louis, Mo.
MILLER, B. H.....	Consolidated Saw Mills Co.	Oklahoma City, Ok.
MEYER, F. A.....	Consolidated Saw Mills Co.	Indianapolis, Ind.
MARTIN, C. E.....	Sabine Lumber Company...	Cedar Rapids, Ia.
MORTON, W. A.....	Kaul Lumber Company...	Birmingham, Ala.
MILLER, H. C.....	Marathon Lbr. Co.....	Columbus, Ohio
McCLANAHAN, J. A.....	La. Red Cypress Co.....	Peoria, Ill.
MUHL, LOUIS E.....	Southern Lumber Company	Fort Dodge, Ia.
MUCKE, A. G.....	Ozan-Graysonia Lbr. Co...	St. Louis, Mo.
MEAD, P. H.....	Mo. Lbr. & Land Exc. Co.	Erie, Pa.
MYERS, C. W.....	W. R. Pickering Lbr. Co.	Detroit, Mich.
MASON, O. A.....	Mo. Lbr. & Land Exc. Co...	St. Louis, Mo.
MILLS, HORACE.....	Mills & Arnold.....	Kirksville, Mo.
MEDES, W. B.....	W. R. Pickering Lbr. Co.	Kansas City, Mo.
MILLER, LEO P.....	Crossett Lumber Company...	Danville, Ill.
MOSS, HERBERT.....	Carter-Kelley Lumber Co...	Manning, Texas
MONTGOMERY, HARVEY...	W. R. Pickering Lbr. Co.	St. Louis, Mo.
MULLEN, C. C.....	Long-Bell Lumber Co.....	St. Louis, Mo.
MARSHALL, L. J.....	Mo. Lbr. & Land Exc. Co...	Chanute, Kan.
MARTIN, WILBER.....	Crossett Lumber Co.....	Beatrice, Neb.
MARTIN, J. K.....	Mo. Lbr. & Land Exc. Co...	Terre Haute, Ind.
MORELAND, C. H.....	Kaul Lumber Company...	Birmingham, Ala.
McCOAL, A. F.....		
MANSFIELD, C. J.....	Central Kansas Lumber Co.	Warren, Ark.
McCORMACK, IF. H.....	Wisconsin & Arkansas Lbr.	Company..... Madison, Ark.
McFARLAND, H. F.....	Long-Bell Lumber Co.....	Kansas City, Mo.
McVEY, HUGH.....	"Successful Farming".....	Des Moines, Ia.
NELSON, M. B.....	Long-Bell Lumber Co.....	Kansas City, Mo.
NOYES, A. H.....	Ayer & Lord Tie Company	Chicago, Ill.
NICHOLS, J. L.....	Consolidated Saw Mills Co.	Peoria, Ill.
NOONE, WALTER J.....	J. J. Newman Lumber Co.	Indianapolis, Ind.
NEWMAN, J. E.....	Arkansas Lumber Co.....	Warren, Ark.
NUGENT, WALKER.....	M. E. Magruder & Co.....	Peoria, Ill.
NICHOLS, MARVIN.....	Crossett Lumber Company	Muncie, Ind.
NICOL, H. B.....	Central Coal & Coke Co...	Des Moines, Ia.
NELSON, T. H.....	T. H. Nelson Lumber Co.	Indianapolis, Ind.
OLDHAM, J. F.....	Van Cleve Saw Mill Co.	St. Louis, Mo.
OLIVER, R. J.....	Fort Smith Lumber Co...	Kansas City, Mo.
O'BRIEN, L. J.....	St. Tammany Lbr. & Mfg.	Company..... New Orleans, La.
PEARSALL, A. W.....	Kirby Lumber Company....	Ft. Worth, Tex.
PARKER, ALLEN.....	Tremont Lumber Company	Winfield, La.
PRESTRIDGE, J. S.....		Wichita, Kan.
PORTER, J. L.....	Sabine Lumber Company...	St. Louis, Mo.
PECK, R. B.....	W. T. Ferguson Lbr. Co...	Cleveland, Ohio
PARKER, N. T.....	Mo. Lbr. & Land Exc. Co...	Lincoln, Neb.
PRENTISS, W. H.....	C. A. Mauk Lumber Co...	Toledo, Ohio
PRICE, R. S.....	Mo. Lbr. & Land Exc. Co...	St. Louis, Mo.

PORTER, ALBERT L.....	La. Red Cypress Co.....	Cleveland, Ohio
PRATT, C. A.....	La. Red Cypress Co.....	Las Vegas City, Mo.
POTEET, GEO. A.....	Great Southern Lumber Co.....	Indianapolis, Ind.
PENDLETON, E. E.....	Southern Pine Association	New Orleans, La.
PIER, W. A.....	Lumberman Exc. of	
	St. Louis.....	St. Louis, Mo.
PARMINTER, L. I.....	Long-Bell Lumber Co.....	Kansas City, Mo.
PRICE, CHAS. E.....	William Buchanan.....	St. Louis, Mo.
PEFFER, OTTO G.....	Dian Lbr. Co.....	St. Louis, Mo.
PADDOCK, P.....	Richton Lumber Company	Springfield, Ill.
PARSONS, N. H.....	Southern Lumber Company	Rockford, Ill.
REEVES, T. W.....	Pine Belt Lumber Co.....	Pinebelt, Ala.
ROBERTSON, A. F. S.....	W. T. Ferguson Lbr. Co.....	Centralia, Ill.
RICHARDS, H. VIRGIL....	Long-Bell Lumber Co.....	Indianapolis, Ind.
RIEDEL, O. S.....	Kirby Lumber Company...	Salina, Kan.
ROBINSON, W. S.....	Long-Bell Lumber Co.....	Abingdon, Ill.
RUGG, F. O.....	Mo. Lbr. & Land Exc. Co...	Kansas City, Mo.
REHEIS, JNO. K.....	St. Louis Lumber Co.....	St. Louis, Mo.
RIDER, W. A.....	Frost-Johnson Lumber Co	Indianapolis, Ind.
ROBINSON, S. A.....	Consolidated Saw Mills Co...	St. Louis, Mo.
REICHART, L. D.....	W. T. Ferguson Lbr. Co...	St. Louis, Mo.
ROBERTSON, MR.....	W. T. Ferguson Lbr. Co...	Centralia, Ill.
ROHMBERG, HAROLD.....	Sabine Lumber Company...	St. Louis, Mo.
REYBURN, F. T.....	Sabine Lumber Company...	St. Louis, Mo.
RICHARDSON, G. M.....	Industrial Lumber Co.....	Wichita, Kan.
REMAKLUS, C. A.....	Richton Lumber Company...	Richton, Miss.
RICHARDSON, J. F.....	Architect	Ottawa, Ill.
RICHART, C. E.....	Arkansas Land & Lbr. Co.	Bloomington, Ill.
RISON, R. E.....	Crossett Lumber Company	Oklahoma City, Ok.
ROGERS, JAS. N.....	Eastman, Gardiner & Co...	Indianapolis, Ind.
ROBINSON, T. E.....	Western Lumber Company...	Columbus, Ohio
ROOPE, FRANK L.....	Great Southern Lbr. Co...	St. Louis, Mo.
ROGERS, H. N.....	Eastman, Gardiner & Co...	Laurel, Miss.
ROOF, E. A.....	Gates Lumber Company...	Hutchinson, Kan.
RHODES, J. E.....	Southern Pine Association	New Orleans, La.
REYNOLDS, J. W.....	Big Pine Lumber Co.....	Houston, Texas
ROBINSON, S. A.....	Consolidated Saw Mills Co...	St. Louis, Mo.
SEIDEL, JULIUS.....	Julius Seidel Lumber Co...	St. Louis, Mo.
SWAIN, S. G.....	Swain Lumber Company...	Aliceville, Ala.
SMITH, J. W.....	Kirby Lumber Company...	Austin, Texas
SIMPSON, WM. M.....	Long-Bell Lumber Co.....	Omaha, Neb.
SMITH, B. H. JR.....	Long-Bell Lumber Co.....	Longville, La.
SMITH, J. H.....	Long-Bell Lumber Co.....	Pine Bluff, Ark.
SPENCER, JOHN A.....	Long-Bell Lumber Co.....	Chicago, Ill.
SMITH, GEO. K.....	George K. Smith.....	St. Louis, Mo.
SCHOFIELD, L. R.....	Long-Bell Lumber Co.....	Kansas City, Mo.
SCHIERMAN, W. G.....	Gulf Lumber Company...	Ottumwa, Iowa
SHORT, SCOTT.....	Frost-Johnson Lumber Co...	St. Louis, Mo.
SCHNIEDERS, J. F.....	Frost-Johnson Lumber Co	Tulsa, Okla.
SPENGLER, H. C.....	Frost-Johnson Lumber Co	Cedar Rapids, Ia.
STEVENS, H. G.....	Frost Johnson Lumber Co	Decatur, Ill.
STORM, BERT.....	Consolidated Saw Mills Co...	Ft. Towson, Okla.
SWARTZ, J. E.....	W. T. Ferguson Lbr. Co...	St. Louis, Mo.
SHOFFMASTER, C. E.....	Shoffmaster & Urban.....	Cledo, Ohio
SMITH, O. N.....	Industrial Lumber Co.....	Wichita, Kan.
SACKETT, H. S.....	National Lbr. Mfg. Assn...	Chicago, Ill.
STRUBE, H. A.....	Mo. Lbr. & Land Exc. Co...	Dallas, Texas
SAMPLE, J. G.....	Kirby Lumber Company...	Kansas City, Mo.
SMITH, J. W.....	Wausau Southern Lbr. Co	Chicago, Ill.
STICKLE, A. W.....	Clark & Boice Lumber Co	Dallas, Texas
STRUBE, E. F.....	Mo. Lbr. & Land Exc. Co...	Ft. Worth, Tex.

SNELL, FRANK N.....La. Red Cypress Co..... ew Orleans, La.
 SNELL, H. H.....Lathrop Lumber Company. Birmingham, Ala.
 SMITH, P. L.....Lathrop Lumber Company. Birmingham, Ala.
 STONE, W. P.....La. Red Cypress Co..... Louisville, Ky.
 SHOOP, WALTER C.....Finkbine Lumber Company Decatur, Ill.
 STEELE, W. C.....Finkbine Lumber Company Decatur, Ill.
 SNIDER, W. E.....Natalbany Lumber Co.... Rock Island, Ill.
 SEYMOUR, F. C.....Gates Lumber Company... Wilmar, Ark.
 SMITH, T. L.....Natalbany Lumber Co.... Hammond, La.
 SMITH, E. S.....Crossett Lumber Company. Peoria, Ill.
 SMITH, C. H.....Oniel-Wites Lumber Co.... Webster Grove, Mo.
 SKEEN, S. P.....A. P. Conklin Lumber Co. Indianapolis, Ind.
 STEVENS, C. A. A.....Brooks-Scanlon Company... Memphis, Tenn.
 SHAW, ST. CLAIR.....Mo. Lbr. & Land Exc. Co... Cleveland, Ohio
 STERLING, E. A.....National Lbr. Mfg. Assn.. Chicago, Ill.
 SMITH BROS. &

COMPANYCrossett Lumber Company Peoria, Ill.
 SCHMOLHANS, K. B.....Gates Lumber Company...Davenport, Ia.
 SMITH, C. P.....Industrial Lumber Co....Wichita, Kan.
 SPENCER, B. F.....T. H. Garrett Lumber Co. St. Louis, Mo.
 STEWART, ALPHEUS.....American Lumberman.... St. Louis, Mo.
 SATTERWHITE, F. A.....Gideon-Anderson Lbr. Co.. St. Louis, Mo.
 STORMS, A. D.....Southern Pine Lumber Co. Ft. Madison, Ia.
 SCENOGLE, W. H.....Long-Bell Lumber Co..... ew York, N. Y.

TROY, ED.....Gulf Lumber Company.... Indianapolis, Ind.
 THORNTON, C. W.....Long-Bell Lumber Co.... Kansas City, Mo.
 TOURELLOT, DALLAS.....Gulf Coast Lumberman.... Houston, Texas
 THRASHER, W. J.....W. T. Ferguson Lbr. Co... Waco, Tex.
 TULLY, L. M.....La. Red Cypress Co.... St. Louis, Mo.
 TOBIN, PAUL H.....Southern Lumber Company Jttumwa, Ia.
 THOMAS, P. H.....Finkbine Lumber Company Wiggins, Miss.
 TARRANT, W. P.....Stenographer St. Louis, Mo.
 THOMPSON, C. F.....Mississippi Lumber Co.... Chicago, Ill.
 THOMAS, K. F.....A. P. Conklin Lumber Co. Columbus, Ohio
 TENNANT, E. D.....Order of Hoo-Hoo..... St. Louis, Mo.
 TREADWAY, R. L.....Kirby Lumber Company... Houston, Texas
 TEMPLE, C. N.....Southern Pine Lumber Co. Dallas, Texas
 TREISCHMANN, A.....Crossett Lumber Company. Crossett, Ark.
 THOMPSON, J. LEWIS.... Thompson Bros. Lbr. Co.... Houston, Texas

VON SCHRENK, DR.

HERMANN,Southern Pine Association. St. Louis, Mo.
 VON SCHRENK, ARNOLD...Von Schrenk & Kammerer... St. Louis, Mo.
 VOSMEYER, W. C.....W. T. Ferguson Lbr. Co.... Louisville, Ky.
 VANLANDINGHAM, W. B. Jordan River Lumber Co. Chicago, Ill.
 VAN CLEAVE, B. L.....Van Cleave Saw Mill Co. St. Louis, Mo.

WILSON, GEO. W.... Chicago Lumber & Coal Co.

of Washington..... St. Joseph, Mo.
 WHITSETT, G. D.....Kirby Lumber Company... Amarillo, Texas
 WHEELER, J. M.....Kirby Lumber Company... Oklahoma City, Ok.
 WEISS, RAY.....Kirby Lumber Company... Chicago, Ill.
 WHEELER, R. A.....Kirby Lumber Company... Indianapolis, Ind.
 WILLIS, E. E.....Long-Bell Lumber Co.... Mt. Vernon, Ill.
 WEBSTER, H. E.....Long-Bell Lumber Co.... Wichita, Kan.
 WAGGONER, N. C.....Gulf Lumber Company... East St. Louis, Ill.
 WILLHITE, H. M.....Gulf Lumber Company... East St. Louis, Ill.
 WAGON, H. W.....Frost-Johnson Lumber Co. t. Louis, Mo.
 WALLACE, W. W.....Trinity County Lbr. Co.... Groveton, Texas
 WELLS, J. G.....Frost-Johnson Lumber Co. Aurora, Ill.
 WYLIE, D. M.....Frost-Johnson Lumber Co. Galesburg, Ill.
 WOODHEAD, BEN S.....Beaumont Lumber Co.... Beaumont, Tex.

WHERRIT, F. D.....	Sabine Lumber Company..	St. Louis, Mo.
WADDLE, H. A.....	W. T. Ferguson Lumber Co..	Springfield, Ill.
WATTS, J. E.....	Southern Lumber Company	Mason City, Ia.
WILDER, E. J.....	Finkbine Lumber Company	D'Lo, Miss.
WIKON, J. W.....	Mississippi Lumber Co....	Quitman, Miss.
WATKINS, FRANK R....	Mo. Lbr. & Land Exc. Co...	Kansas City, Mo.
WESSON, J. H.....	Central Coal & Coke Co...	St. Louis, Mo.
WIENER, ELI.....	Angelina County Lbr. Co..	Keltys, Texas
WALHER, H. W.....	Southern Pine Lumber Co.	Dallas, Texas
WHITMORE, F. E.....	Mississippi Lumber Co....	Chicago, Ill.
WHITEHEAD, GEO. C....	Crossett Lumber Company	Wheeling, W. Va.
WEISS, HOWARD F.....	Forest Products Laboratory	Madison, Wis.
WELLINGHAM, S. M....	Organ Lumber Company..	St. Louis, Mo.
WHITE, JOS.....	Mo. Lbr. & Land Exc. Co...	Kansas City, Mo.
WILLIAMSON, E. H.....	Great Southern Lumber Co..	Peoria, Ill.
WHALEN, M. A.....	Payton Lbr. & Supply Co...	
WHITE, C. A. JR.....	Darlington Lumber Co....	St. Louis, Mo.
WILSON, H. L.....	S. H. Bolinger & Co.....	Terre Haute, Ind.
YARDLEY, W. J.....	Sabine Lumber Company..	St. Louis, Mo.
ZELNICKER, W. A....	Walter A. Zelnicker Supply	
	Company.....	St. Louis, Mo.

Attendance at S. O. S. Convention

CLASSIFIED as to FIRMS REPRESENTED

- ANGELINA COUNTY LBR. Co., Keltys, Texas.
Eli Heiner, Keltys, Texas.
- ANTRIM LUMBER Co., St. Louis, Mo.
A. H. Beardsley, St. Louis, Mo.
- ARKANSAS LUMBER Co., Warren, Ark.
J. E. Newman, Warren, Ark.
C. J. Mansfield, Warren, Ark.
J. W. Embree, Chicago, Ill.
- ARKANSAS LAND & LUMBER Co., Malvern, Ark.
A. E. Lamont, Malvern, Ark.
C. E. Richart, Bloomington, Ill.
- BAGDAD LAND & LUMBER Co., Bagdad, Fla.
C. R. Burgoyne, Pensacola, Fla.
M. M. Glasgow, Bagdad, Fla.
- S. H. BOLLINGER & Co., Shreveport, La.
J. Donner, Shreveport, La.
H. L. Wilson, Shreveport, La.
- BROOKS, SCANLON & Co., Kentwood, La.
C. H. Stevens, Memphis, Tenn.
V. P. Landon, Indianapolis, Ind.
M. J. Logan, Kentwood, La.
- BIG PINE LUMBER Co., Colfax, La.
J. W. Reynolds, Houston, Texas.
- WM. BUCHANAN, Texarkana, Ark.
Chas. E. Price, St. Louis, Mo.
- BURTON SWARTZ CYP. Co. OF FLA., Perry, Fla.
J. A. Hilliard, Perry, Fla.
- BAY BROS. LBR. Co., St. Louis, Mo.
M. C. Bay, St. Louis, Mo.
- BERTHOLD-JENNINGS LBR. Co., St. Louis, Mo.
C. P. Jennings, St. Louis, Mo.
- BEAUMONT LUMBER Co., Beaumont, Texas.
Ben S. Woodhead, Beaumont, Texas.
- A. P. CONKLIN LBR. Co., Indianapolis, Ind.
K. F. Thomas, Columbus, Ohio.
S. P. Skeen, Indianapolis, Ind.
- CHICAGO LBR. & COAL Co. OF WASHINGTON, Kansas City, Mo.
Thos. W. Sanford, Kansas City, Mo.
N. L. McKee, Kansas City, Mo.
Geo. W. Wilson, St. Joseph, Mo.
- CONSOLIDATED SAW MILLS Co., St. Louis, Mo.
Geo. G. Clements, Marengo, Iowa.
F. A. Meyers, Indianapolis, Ind.
B. H. Miller, Oklahoma City, Okla.
R. O. Jackson, Dallas, Texas.
S. A. Robinson, St. Louis, Mo.
J. F. Herd, St. Louis, Mo.
J. A. Meyer, St. Louis, Mo.
Bert Storm, Ft. Towson, Okla.
W. Elmo Colin, Tulsa, Okla.
- CENTRAL COAL & COKE Co., Kansas City, Mo.
Chas. S. Keith, Kansas City, Mo.
R. G. Affleck, Kansas City, Mo.
H. B. Nicol, Des Moines, Iowa.
Ransom Griffin, Kansas City, Mo.

- J. H. Wesson, St. Louis, Mo.
 W. M. Barry, Galesburg, Ill.
 Jas. H. Lang, Kansas City, Mo.
 CROSSETT LUMBER COMPANY, Crossett, Ark.
 C. B. Isbell, Elkhart, Ind.
 Smith Bros. & Co., Peoria, Ill.
 A. Treischmann, Crossett, Ark.
 E. R. Hilton, Huron, Ohio.
 Geo. C. Whitehead, Wheeling, West Va.
 Wilber Marlin, Beatrice, Nebr.
 Marvin Nichols, Muncie, Ind.
 R. E. Rison, Oklahoma City, Okla.
 Leo P. Miller, Danville, Ill.
 E. S. Smith, Peoria, Ill.
 CENTRAL LUMBER Co., Brookhaven, Miss.
 M. J. Hale, Brookhaven, Miss.
 CARTER-KELLY LUMBER Co., Manning, Texas.
 Herbert Moss, Manning, Texas.
 W. M. CADY LUMBER Co., McNary, La.
 G. L. Isbell, McNary, La.
 CORDIA TIMBER Co., St. Louis, Mo.
 L. B. Goddard, Pharlock, Mo.
 CALIFORNIA SUGAR & WHITE PINE Co., San Francisco, Calif.
 David H. Cale, Wichita, Kansas.
 CLARK & BOICE LBR. Co., Dallas, Texas.
 A. W. Stickle, Dallas, Texas.
 W. W. CARRE LUMBER Co., New Orleans, La.
 Tudor B. Carre, New Orleans, La.
 DIBERT, STARK & BROWN CYP. Co., Donner, La.
 E. L. Heitert, St. Louis, Mo.
 O. E. Gearheard, Donner, La.
 DICKINSON LUMBER Co., St. Louis, Mo.
 George I. Dickinson, Indianapolis, Ind.
 DIONNE LUMBER Co., St. Louis, Mo.
 Otto T. Pfeffer, St. Louis, Mo.
 DARLINGTON LBR. & C. Co., St. Louis, Mo.
 Chas. A. White, Jr., St. Louis, Mo.
 DIERKS LUMBER & COAL Co., Kansas City, Mo.
 H. L. Dierks, Kansas City, Mo.
 EASTMAN-GARDINER & Co., Laurel, Miss.
 Jas. H. Heyl, Columbus, Ohio.
 J. H. Estes, Nashville, Tenn.
 P. M. Lanehart, New York, N. Y.
 H. N. Rogers, Laurel, Miss.
 Jas. N. Rogers, Indianapolis, Ind.
 C. B. McVey, Washington, Ill.
 Charles Green, Laurel, Miss.
 ERIE LUMBER COMPANY, Erie, Pa.
 H. G. Irwin, Erie, Pa.
 E. B. ECKHARD, Carbondale, Ill.
 E. B. Eckhard, Carbondale, Ill.
 W. T. FERGUSON LBR. Co., St. Louis, Mo.
 Fred S. Robertson, Centralia, Ill.
 J. B. Allen, Centralia, Ill.
 Thos. Hanford, Chicago, Ill.
 W. C. Vossmeier, Louisville, Ky.
 H. A. Waddell, Springfield, Ohio.
 L. D. Reichart, St. Louis, Mo.
 W. J. Thrasher, Waco, Texas.
 R. B. Peck, Cleveland, Ohio.
 J. E. Swarz, St. Louis, Mo.
 O. E. Crawford, Indianapolis, Ind.

- FINKBINE LUMBER Co., Wiggins, Miss.
 E. J. Wilder, D'Lo, Miss.
 Walter C. Shoop, Decatur, Ill.
 W. C. Steele, Decatur, Ill.
 T. H. Thomas, Wiggins, Miss.
 H. I. Isbell, Elkhart, Ind.
- FORDYCE LUMBER Co., Fordyce, Ark.
 H. L. Foster, Fordyce, Ark.
 Fred J. Bowers, Mansfield, Ohio.
- FARGUHOR, J. S. N., LER. Co., St. Louis, Mo.
 J. S. N. Farguhor, Frederickstown, Mo.
- FROST-JOHNSON LUMBER Co., St. Louis, Mo.
 R. B. Bearden, Cleveland, Ohio.
 W. A. Redie, Indianapolis, Ind.
 W. B. Dripps, Indianapolis, Ind.
 C. M. Hangar, Morocco, Ind.
 H. G. Bucknell, St. Louis, Mo.
 H. G. Stevens, Decatur, Ill.
 D. M. Wylie, Galesburg, Ill.
 H. C. Spengler, Cedar Rapids, Iowa.
 V. E. Bliss, Des Moines, Ia.
 C. D. Johnson, Jr., St. Louis, Mo.
 J. G. Wells, Aurora, Ill.
 J. F. Schneiders, Tulsa, Okla.
 J. F. Farmer, Ft. Worth, Texas.
 T. F. Brashear, Hearne, Texas.
 C. F. Condit, Detroit, Mich.
 J. D. Batcheler, Shreveport, La.
 H. W. Wogan, St. Louis, Mo.
 A. J. Molt, St. Louis, Mo.
 Scott Short, St. Louis, Mo.
 J. B. Chipman, St. Louis, Mo.
 E. A. Frost, Shreveport, La.
 C. D. Johnson, St. Louis, Mo.
- FORT SMITH LUMBER Co., Plainview, Ark.
 R. J. Oliver, Kansas City, Mo.
- GULF LUMBER COMPANY, St. Louis, Mo.
 W. L. Henry, Springfield, Ill.
 C. E. Lemons, Aurora, Ill.
 W. G. Scherman, Ottumwa, Iowa.
 W. T. Hicks, Detroit, Mich.
 H. M. Willhite, St. Louis, Mo.
 H. E. Linneman, St. Louis, Mo.
 H. F. Humes, St. Louis, Mo.
 A. M. Houston, St. Louis, Mo.
 J. E. Cool, St. Louis, Mo.
 Wm. Hess, St. Louis, Mo.
 L. J. Boykin, Houston, Texas.
 Hoyt James, Houston, Texas.
 R. O. Crozier, Ft. Worth, Texas.
 Ed. Troy, Indianapolis, Ind.
- GREAT SOUTHERN LUMBER Co., Bogalusa, La.
 Geo. A. Poteet, Indianapolis, Ind.
 C. G. Atkinson, Indianapolis, Ind.
 Frank L. Roope, St. Louis, Mo.
 Henry W. Haynes, Memphis, Tenn.
 E. H. Williamson, Peoria, Ill.
- T. H. GARRETT LUMBER Co., St. Louis, Mo.
 B. F. Spencer, St. Louis, Mo.
 T. H. Garrett, Jr., St. Louis, Mo.
 R. C. Bridges, St. Louis, Mo.

- GATES LUMBER Co., Wilmar, Ark.
K. B. Schmolhaus, Davenport, Iowa.
G. W. Foster, Wilmar, Ark.
E. M. DOLLARHIDE, Chicago, Ill.
E. A. Roof, Hutchinson, Kas.
F. C. Seymour, Wilmar, Ark.
GRAYSON-McLEOD LBR. Co., St. Louis, Mo.
E. F. Elder, Wichita, Kas.
GERMAIN COMPANY, Pittsburgh, Pa.
Adair Lockman, Chicago, Ill.
GOODYEAR LUMBER Co., Bogalusa, La.
Jack E. Brantley, Chicago, Ill.
GIDEOW-ANDERSON LBR. Co., St. Louis, Mo.
F. A. Satterwhite, St. Louis, Mo.
GANAHL LUMBER Co., St. Louis, Mo.
Fred A. Gerber, St. Louis, Mo.
GILCHRIST-FORDNEY Co., Laurel, Miss.
C. A. Barksdale, Laurel, Miss.
HOMOCHITTO LUMBER Co., Bude, Miss.
E. J. Hurst, Bude, Miss.
L. C. Lingham, Cleveland, Ohio.
R. O. Hunter, Springfield, Ill.
HALL & LEGAN LBR. Co., Morton, Miss.
C. K. McClure, St. Louis, Mo.
H. J. Bowman, Indianapolis, Ind.
John Christy, Alton, Ill.
C. A. Bowman, St. Louis, Mo.
HUIE-HODGE LUMBER Co., Hodge, La.
J. T. Holloway, Hodge, La.
O. E. Hodge, Hodge, La.
HANLY CYPRESS Co. F. G., St. Louis, Mo.
O. E. Baldwin, St. Louis, Mo.
HARWOOD, W. A., LBR. & COAL Co., St. Louis, Mo.
T. F. Harwood, Bloomington, Ill.
HINTON BROS. LBR. Co., Lumberton, Miss.
W. P. Haynes, Lumberton, Miss.
HILL-BEHAN LUMBER Co., St. Louis, Mo.
A. F. McCooile, St. Louis, Mo.
INDUSTRIAL LUMBER Co., Elizabeth, La.
G. M. Richardson, Wichita, Kansas.
I. A. Lovitt, Temple, Texas.
O. N. Smith, Wichita, Kas.
Edw. E. Krauss, Elizabeth, La.
W. M. Estes, Temple, Texas.
C. P. Smith, Wichita, Kas.
R. M. Hollowell, Elizabeth, La.
ISBELL, H. I. Co., Elkhart, Ind.
E. E. Isbell, Elkhart, Ind.
E. C. Godfrey, Elkhart, Ind.
INTERNATIONAL CRESO. & CONSTR. Co., Galveston, Texas.
J. D. Latimer, Galveston, Texas.
E. E. Boehne, Galveston, Texas.
JORDAN RIVER LUMBER Co., Kiln, Miss.
W. B. Vanlandingham, Chicago, Ill.
KIRBY LUMBER Co., Houston, Texas.
J. G. Sample, Kansas City, Mo.
B. F. Bonner, Houston, Texas.
W. E. Farnan, Houston, Texas.
Harry T. Kendall, Houston, Texas.
F. J. Lennox, Waco, Texas.
A. W. Pearsall, Ft. Worth, Texas.
J. H. Miller, Dallas, Texas.

- J. W. Smith, Austin, Texas.
 R. E. Cahill, San Antonio, Texas.
 C. J. Jennings, Alice, Texas.
 G. D. Whitsett, Amarillo, Texas.
 E. L. Barrow, El Paso, Texas.
 J. M. Wheeler, Oklahoma City, Okla.
 V. M. Lacy, St. Louis, Mo.
 J. H. Hatcher, Kansas City, Mo.
 R. P. DuPage, Kansas City, Mo.
 W. F. Denman, Kansas City, Mo.
 H. T. Igon, Hutchinson, Kas.
 O. S. Riedel, Salina, Kas.
 Ray Weiss, Chicago, Ill.
 G. N. Austin, Chicago, Ill.
 J. A. Kendall, Peoria, Ill.
 E. H. Mauk, Toledo, Ohio
 C. D. Crane, Columbus, Ohio.
 R. A. Wheeler, Indianapolis, Ind.
 R. E. Browne, New York, N. Y.
 Thos. Gray, Buffalo, N. Y.
 R. O. Faries, Houston, Texas.
 R. L. Treadway, Houston, Texas.
 J. T. McCarthy, Houston, Texas.
 KEITH LUMBER Co., Voth, Texas.
 W. J. Buhman, Voth, Texas.
 KAUL LUMBER COMPANY, Birmingham, Ala.
 J. H. Eddy, Birmingham, Ala.
 W. C. Fellows, Birmingham, Ala.
 W. A. Morton, Birmingham, Ala.
 G. P. McCracken, Birmingham, Ala.
 C. H. Moreland, Birmingham, Ala.
 J. A. Brookes, Birmingham, Ala.
 Jno. L. Kaul, Birmingham, Ala.
 LONG-BELL LBR. Co., Kansas City, Mo.
 D. H. Conner, Ft. Worth, Texas.
 A. B. Connor, San Antonio, Texas.
 H. M. Hayward, Kansas City, Mo.
 C. C. Mullen, St. Louis, Mo.
 R. E. McKee, St. Louis, Mo.
 L. I. Parminter, Kansas City, Mo.
 A. F. Arnold, Amarillo, Texas.
 Will C. Dix, Memphis, Tenn.
 Chas. S. Ash, Topeka, Kas.
 W. S. Robinson, Abingdon, Ill.
 Jules T. Borresen, Pine Bluff, Ark.
 S. E. Barwick, Chicago, Ill.
 W. M. Beebe, Kansas City, Mo.
 H. E. Webster, Wichita, Kas.
 L. R. Schofield, Kansas City, Mo.
 R. L. Moore, Houston, Texas.
 H. C. Eaton, Waco, Texas.
 Fred C. Kuehnle, Cleveland, Ohio.
 D. R. Meredith, Toledo, Ohio.
 E. E. Willis, Mt. Vernon, Ill.
 Chas. W. Green, Toledo, Ohio.
 A. C. Long, Jr., Indianapolis, Ind.
 Jno. A. Spencer, Chicago, Ill.
 J. H. Smith, Pine Bluff, Ark.
 Geo. M. Jones, Wheeling, West Va.
 M. B. Nelson, Kansas City, Mo.
 Willis Honnes, Oklahoma City, Okla.
 Jno. E. Moses, Oskaloosa, Iowa.

- Wm. M. Simpson, Omaha, Neb.
C. L. Knowles, Kansas City, Mo.
C. W. Thornton, Kansas City, Mo.
J. H. Lane, New York, N. Y.
Geo. Houston, Cleveland, Ohio.
Harry D. Jones, Kansas City, Mo.
Fred Berger, Kalamazoo, Mich.
H. Virgil Richards, Indianapolis, Ind.
C. J. Laughlin, Lake Charles, La.
W. H. Icenogle, New York, N. Y.
B. H. Smith, Jr., Longville, La.
D. R. Bodwell, Kansas City, Mo.
R. E. Hill, Kansas City, Mo.
H. F. McFarland, Kansas City, Mo.
LOTHMAN CYPRESS CO., St. Louis, Mo.
Wm. Lothman, Jr., St. Louis, Mo.
A. J. Gillespie, St. Louis, Mo.
LATHROP LUMBER CO., Birmingham, Ala.
H. H. Snell, Birmingham, Ala.
P. L. Smith, Birmingham, Ala.
LOUISIANA RED CYPRESS CO., New Orleans, La.
Frank N. Snell, New Orleans, La.
L. M. Tully, St. Louis, Mo.
J. D. Farley, Cincinnati, Ohio.
Hubert Gregg, Indianapolis, Ind.
H. A. Hoover, Ashley, Ill.
J. A. McClanahan, Peoria, Ill.
W. P. Stone, Louisville, Ky.
Albert S. Porter, Cleveland, Ohio.
H. P. Altman, Chicago, Ill.
C. A. Pratt, Kansas City, Mo.
H. H. Hoyt, St. Joseph, Mo.
LUMBER MINERAL CO., Arbo, Miss.
R. M. Cust, Arbo, Miss.
LOUISIANA SAW MILL CO.
J. E. Crawford, Lake Charles, La.
LAWRENCE LUMBER CO., P. J., St. Louis, Mo.
P. J. Lawrence, St. Louis, Mo.
MISSOURI LAND & LUMBER EXCH. CO., Kansas City, Mo.
N. T. Parker, Lincoln, Neb.
H. A. Strube, Dallas, Texas.
Bert E. Cook, Chicago, Ill.
H. E. McGill, Chicago, Ill.
R. S. Price, St. Louis, Mo.
Mark Anson, Muscatine, Iowa.
E. F. Strube, Ft. Worth, Texas.
R. H. Mead, Erie, Pa.
O. A. Mason, St. Louis, Mo.
R. K. Eaton, Des Moines, Iowa.
C. L. Chaffee, Norfolk, Neb.
H. M. Barns, Kansas City, Mo.
St. Clair Shaw, Cleveland, Ohio.
E. H. McGill, Kansas City, Mo.
L. J. Marshall, Chanute, Kas.
I. A. Martin, Terre Haute, Ind.
Geo. W. Dulaney, Lafayette, Ind.
Alex. Hamilton, Indianapolis, Ind.
F. O. Rugg, Kansas City, Mo.
J. B. White, Kansas City, Mo.
J. E. Diamond, Cleveland, Ohio.
Frank R. Watkins, Kansas City, Mo.
H. J. Degenhart, St. Louis, Mo.

- McMillan Carson, Aurora, Ill.
 MARATHON LUMBER Co., Laurel, Miss.
 M. H. Bissell, Laurel, Miss.
 H. C. Miller, Columbus, Ohio.
 MISSISSIPPI LUMBER COMPANY, Quitman, Miss.
 J. W. Wilson, Quitman, Miss.
 C. F. Thompson, Chicago, Ill.
 F. E. Whitehead, Chicago, Ill.
 MILLS & ARNOLD, Kirksville, Mo.
 Horace Mills, Kirksville, Mo.
 S. W. Arnold, Kirksville, Mo.
 MAUK, C. A., LBR. Co., Toledo, Ohio.
 W. H. Prentiss, Toledo, Ohio.
 MCKEE LBR. Co., W. I., Kansas City, Mo.
 A. E. Cummings, Kansas City, Mo.
 M. E. MACRUDER & Co., Peoria, Ill.
 Walker Nugent, Peoria, Ill.
 McDONNELL, W., & SONS, St. Louis, Mo.
 Sumner McDonnell, Chicago, Ill.
 NEWMAN, J. J., LUMBER Co., Hattiesburg, Miss.
 Jno. R. Cooper, Paducah, Ky.
 Will H. Bultman, Indianapolis, Ind.
 E. B. Lemmons, Hattiesburg, Miss.
 A. J. Carroll, Hattiesburg, Miss.
 J. H. Kennedy, Hattiesburg, Miss.
 Walter J. Noone, Indianapolis, Ind.
 J. G. Gibbons, Scranton, Miss.
 E. G. Koza, Quincy, Ill.
 W. H. Elbring, St. Louis, Mo.
 NATIONAL LUMBER MFRS. ASSN., Chicago, Ill.
 H. S. Sackett, Chicago, Ill.
 W. H. Bell, Chicago, Ill.
 NATALBANY LUMBER Co., Hammond, La.
 T. L. Smith, Hammond, La.
 F. S. Council, Jackson, Miss.
 Perry H. Graves, Springfield, Ill.
 W. J. Snider, Rockland, Ill.
 T. H. NELSON LUMBER Co., Indianapolis, Ind.
 T. H. Nelson, Indianapolis, Ind.
 O'NIEL-WILES LBR. Co., St. Louis, Mo.
 Bert Brinkman, St. Louis, Mo.
 C. H. Smith, Webster Grove, Mo.
 OZAN-GRAYSONIA LBR. Co., Prescott, Ark.
 A. G. Mucke, St. Louis, Mo.
 E. Grayson, St. Louis, Mo.
 D. M. Dillingham, St. Louis, Mo.
 ORDER OF HOO-HOO'S, St. Louis, Mo.
 E. D. Fernand, Secy-Treas.
 OREGON LUMBER Co., Seattle, Washington,
 N. H. Huey, Chicago, Ill.
 PICKERING, W. R., LUMBER Co., Kansas City, Mo.
 E. G. Bower, Dallas, Texas.
 C. W. Myers, Detroit, Mich.
 Harvey Montgomery, St. Louis, Mo.
 W. B. Medes, Kansas City, Mo.
 J. H. Austin, Jr., Kansas City, Mo.
 W. L. Godley, Wichita, Kas.
 Chas. A. Evans, Waco, Texas.
 PAYTON LUMBER & SUPPLY Co., St. Louis, Mo.
 Wm. Dixon, St. Louis, Mo.
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- PENNINGTON-FOSTER Co., Houston, Texas.
 PEAVY-BYRNES, Shreveport, La.
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 PINE BELT LUMBER Co., Pinebelt, Ala.
 T. W. Reeves, Pinebelt, Ala.
 RICHTON LUMBER Co., Springfield, Ill.
 P. Paddock, Springfield, Ill.
 C. A. Remaklus, Richton, Miss.
 SOUTHERN LUMBER Co., Warren, Ark.
 C. C. Beard, Chicago, Ill.
 L. S. Case, St. Paul, Minn.
 J. E. Finch, Warren, Ark.
 E. D. Ferguson, Blytheville, Ark.
 C. H. Houck, Warren, Ark.
 H. B. Houck, Poplar Bluff, N. C.
 D. H. Bartlett, Sioux City, Iowa.
 Geo. Friend, Des Moines, Iowa.
 O. L. Hedlund, Sioux City, Iowa.
 Louis E. Muhl, Fort Dodge, Iowa.
 G. W. Ainsworth, Marshalltown, Iowa.
 Paul H. Tobias, Ottumwa, Iowa.
 J. E. Watts, Mason City, Iowa.
 E. G. Hunter, Dubuque, Iowa.
 N. H. Parsons, Rockford, Ill.
 SABINE LUMBER Co., St. Louis, Mo.
 W. J. Carrington, St. Louis, Mo.
 F. T. Reyburn, St. Louis, Mo.
 F. E. Allison.
 C. S. Franke, St. Louis, Mo.
 Geo. Costlen, St. Louis, Mo.
 Harold Rahnberg, St. Louis, Mo.
 J. W. Ferguson, St. Louis, Mo.
 W. J. Yardley, St. Louis, Mo.
 C. E. Martin, Cedar Rapids, Iowa.
 J. L. Porter, St. Louis, Mo.
 F. D. Wherrit, St. Louis, Mo.
 Jas. P. Gray, St. Louis, Mo.
 A. A. Dunn, Houston, Texas.
 Neal Davidson, St. Louis, Mo.
 E. M. McClelland, St. Louis, Mo.
 D. S. Carroll, St. Louis, Mo.
 SOUTHERN PINE LUMBER Co., Texarkana, Tex.
 J. S. Partridge, Wichita, Kas.
 H. W. Walker, Dallas, Texas.
 C. N. Temple, Dallas, Texas.
 A. F. McCooile, St. Louis, Mo.
 W. L. Behan, St. Louis, Mo.
 A. M. Hill, St. Louis, Mo.
 R. W. Irvine, Centralia, Ill.
 J. E. Hintz, Texarkana, Texas.
 A. D. Storms, Ft. Madison, Iowa.
 ST. TAMMANY LUMBER MFG. Co., New Orleans, La.
 A. J. Krauss, New Orleans, La.
 L. B. Anderson, Memphis, Tenn.
 L. J. O'Brien, Bloomington, Ill.
 I. I. Dilling, Thornton, Ark.
 SHOFFMASTER & URBAN, Toledo, Ohio.
 P. E. Shoffmaster, Toledo, Ohio.
 GEO. K. SMITH, St. Louis, Mo.
 Geo. K. Smith, St. Louis, Mo.
 SEIDEL, JULIUS, LUMBER Co., St. Louis, Mo.
 Julius Seidel, St. Louis, Mo.

- ST. LOUIS LUMBER Co., St. Louis, Mo.
 John K. Relieis, St. Louis, Mo.
- SWAIN LUMBER Co., Aliceville, Ala.
 S. G. Swain, Aliceville, Ala.
- SOUTH TEXAS LBR. Co., Houston, Texas.
 Thos. W. Blake, Houston, Texas.
- SEATTLE CEDAR LBR. MFG. Co., Seattle, Washington.
 L. B. Huddleston, Cleveland, Ohio.
- SHIP ISLAND LUMBER Co., Sanford, Miss.
 P. H. Bostwick, Sanford, Miss.
- TREMONT LUMBER COMPANY, Winnfield, La.
 J. H. Geagan, Winnfield, La.
 H. G. Hilzheim, Jackson, Miss.
 L. G. King, Winnfield, La.
 Allen Parker, Winnfield, La.
 R. C. Clark, Chicago, Ill.
 Geo. S. Clark, Winnfield, La.
- THOMPSON BROS. LBR. Co., Trinity, Texas.
 J. Lewis Thompson, Houston, Texas. z
- TRINITY COUNTY LBR. Co., Groveton, Texas.
 W. W. Warren, Groveton, Texas.
- VAN CLEVE SAW MILL Co., St. Louis, Mo.
 B. L. Van Cleve, St. Louis, Mo.
 J. F. Oldham, St. Louis, Mo.
- VREDENBURGH SAW MILL Co., Vredenburgh, Ala.
 W. N. Baird, Vredenburgh, Ala.
- WAUSAU SOUTHERN LBR. Co., Laurel, Miss.
 S. B. Bissell, Laurel, Miss.
 Hugh S. McLaughlin, Jackson, Tenn.
 Otto Herwig, Peoria, Ill.
 J. W. Smith, Chicago, Ill.
 E. Darling, Elkhart, Ind.
 A. J. Glassow, Laurel, Miss.
 H. W. Barker, Waterloo, Iowa.
- WEYEHAEUSER SALES Co., St. Paul, Minn.
 J. W. Gronen, Cedar Rapids, Iowa.
- WESTERN LUMBER Co., Columbus, Ohio.
 T. E. Robinson, Columbus, Ohio.
- WISCONSIN & ARKANSAS LBR. Co., Malvern, Ark.
 F. H. McCormack, Malvern, Ark.
- ZELNICKER, WALTER A., SUPPLY Co., St. Louis, Mo.
 Walter A. Zelnicker, St. Louis, Mo.

Grading Rules *for* Southern Yellow Pine Lumber

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Southern Yellow Pine lumber and products, including timbers, lath, shingles, box shooks, paving blocks, etc., are produced in unlimited quantities by the manufacturers who are subscribers to the Southern Pine Association, whose mills are located in the States of Texas, Arkansas, Missouri, Louisiana, Mississippi, Alabama, Georgia and Florida.

Fully 95 per cent of the output of Southern Yellow Pine lumber in the states named is graded and classified according to the Standard Specifications of the Southern Pine Association as printed herein. Quotations of prices are usually made upon the basis of these Grading Rules, which in all essential features have been recognized by the lumber trade for many years.

GENERAL INSTRUCTIONS.

SOUTHERN YELLOW PINE LUMBER shall be graded and classified according to the following rules and specifications as to quality, and dressed stock shall conform to the subjoined table of standard sizes—EXCEPT WHERE OTHERWISE EXPRESSLY STIPULATED BETWEEN BUYER AND SELLER.

2. Recognized defects in Yellow Pine are knots, knot holes, splits (either from seasoning, ring hearts or rough handling), shake, wane, red heart, pith, rot, rotten streaks, worm holes, pitch, pitch pockets, torn grain, loosened grain, seasoning checks, sap stains and defects caused by manufacturing.

KNOTS.

3. Knots shall be classified as follows:

SIZE	{	Pin,
		Standard,
	}	Large.
FORM	{	Round,
		Spike.
QUALITY	{	Sound,
		Loose,
		Encased,
		Pith and Unsound.

4. A **PIN KNOT** is sound and not over $\frac{1}{2}$ inch in diameter.

5. A **STANDARD KNOT** is sound and not over $1\frac{1}{2}$ inches in diameter.

6. A **LARGE KNOT** is one any size over $1\frac{1}{2}$ inches in diameter.

7. A **ROUND KNOT** is oval or circular in form.

8. A **SPIKE KNOT** is one sawn in a lengthwise direction.

(The mean or average diameter of knots shall be considered in applying and construing the rules except in dimension.)

9. A **SOUND KNOT** is one solid across its face, is as hard as the wood it is in; may be either red or black, and is so fixed by growth or position that it will retain its place in the piece.

10. A **LOOSE KNOT** is one not held firmly in place by growth or position.

11. A **PITH KNOT** is a sound knot, with a pith hole not more than $\frac{1}{4}$ inch in diameter.

12. An **ENCASED KNOT** is one whose growth rings are not intergrown and homogeneous with the growth rings of the piece it is in. The encasement may be partial or complete; if intergrown partially or so fixed by growth or position that it will retain its place in the piece, it shall be considered a sound knot; if completely intergrown on one face, it is a water-tight knot.

13. An **UNSOUND KNOT** is one not as hard as the wood it is in.

PITCH.

14. **PITCH POCKETS** are openings between the grain of the wood containing more or less pitch or bark, and shall be classified as small, standard and large pitch pockets.

15. A **small pitch pocket** is one not over $\frac{1}{8}$ of an inch wide.

A **standard pitch pocket** is one not over $\frac{3}{8}$ of an inch wide, or 3 inches in length.

A **large pitch pocket** is one over $\frac{3}{8}$ of an inch wide or over 3 inches in length.

A **pitch pocket** showing open on both sides of the piece, $\frac{1}{8}$ of an inch or more in width, shall be considered the same as a knot hole of equal size.

16. A **pitch streak** is a well-defined accumulation of pitch at one point in the piece, and when not sufficient to develop a well defined streak, or where fiber between grains is not saturated with pitch, it shall not be considered a defect.

A **small pitch streak** shall be equivalent to not over $\frac{1}{12}$ the width and $\frac{1}{6}$ of the length of the piece it is in.

A **standard pitch streak** shall be equivalent to not over $\frac{1}{6}$ the width and $\frac{1}{3}$ of the length of the piece it is in.

WANE.

17. **Wane** is bark, or the lack of bark, or a decrease of wood from any cause, on the edge of the piece.

SAP.

18. **Bright Sap** shall not be considered a defect in any of the grades provided for and described in these rules. The restriction or exclusion of bright sap constitutes a special class of material which can only be secured by special contract.

19. **Sap Stain** shall not be considered a defect in any of the grades of Common Lumber.

CLOSE GRAIN.

20. "**Close Grain.**" The term "close grain" shall mean an average of not less than six annular rings to the inch.

DEFECTIVE GRAIN.

21. **Chipped grain** consists in a part of the surface being chipped or broken out in small particles below the line of the cut, and, as usually found, should not be classed as torn grain, and shall not be considered a defect.

Torn grain consists in a part of the wood being torn out in dressing, and is of four distinct characters—slight, medium, heavy and deep.

Slight torn grain should not exceed $\frac{1}{32}$ of an inch in depth, **medium torn grain** $\frac{1}{16}$ of an inch, and **heavy torn grain** $\frac{1}{8}$ of an inch. Any torn grain heavier than $\frac{1}{8}$ of an inch shall be termed deep.

Loosened grain consists in a point of one grain being torn loose from the next grain.

MISCELLANEOUS.

22. Firm red heart shall not be considered a defect in any of the grades of Common Lumber.

23. Defects in rough stock caused by improper manufacture and drying will reduce grades, unless they can be removed in dressing such stock to standard sizes.

24. All stock, except Dimension, shall be inspected on the face side to determine the grade. In stock surfaced one side only, the dressed surface shall be considered the face side. Stock rough or dressed two sides, or common boards center matched, or shiplapped and S. 2 S., the best side shall be considered the face side, but the reverse side of all such stock should not be more than one grade lower.

25. Imperfect manufacture in dressed stock, such as torn grain, loosened grain, slight skips in dressing, wane, broken knots, mismatched, insufficient tongue or groove on Flooring, Ceiling, Drop Siding, etc., shall be considered defects, and will reduce the grade according as they are slight or serious in the effects on the use of the stock.

26. Pieces of Flooring, Drop Siding or Partition, with $\frac{3}{16}$ of an inch or more of tongue, and pieces of Ceiling with $\frac{1}{8}$ of an inch or more of tongue, and pieces of Shiplap with $\frac{5}{16}$ inch of lap will be admitted in any grade.

Pieces of Flooring, Drop Siding, Ceiling or Partition having not less than $\frac{1}{16}$ of an inch tongue, will be admitted in No. 2 Common.

Pieces of Shiplap having less than $\frac{5}{16}$ of an inch and not less than $\frac{1}{8}$ of an inch lap shall be admitted in No. 2 Common.

One sixteenth of an inch lap admitted in No. 3 Common Shiplap.

27. In all grades of D and Better Flooring, and No. 1 Common and Better Ceiling, Drop Siding, etc., wane on the reverse side, equivalent to one-third the width and one-sixth the length of the piece, provided the wane does not extend into the tongue or groove, is admissible.

28. The grade of all regular stock shall be determined by the number, character, position and location of the defects visible in any piece. The enumerated defects herein described admissible in any grade are intended to be descriptive of the coarsest pieces such grades may contain.

29. Lumber and timber sawed for specific purposes must be inspected with a view to its adaptability for the use intended. Material not conforming to standard sizes, for agricultural implement companies, wagon companies, car manufacturing companies, railway companies, etc., shall be governed by special contract and inspection.

30. The standard lengths are multiples of 2 feet, 4 to 24 feet inclusive, for Boards, Fencing, Dimension, Joists and Timbers; multiples of 1 foot, 4 to 20 feet, inclusive, for Finishing, Flooring, Ceiling, Siding, Partition, Casing, Base, Window and Door Jambs—except as hereinafter specified. Longer or shorter lengths than those herein specified are special. Special fractional lengths, when ordered, will be counted as the next higher standard length.

31. The standard widths for lumber, S. 1 S. or S. 2 S., or rough, excluding Dimension, shall be multiples of 1 inch—3 inches and up in width.

32. On stock widths of No. 1 Common and Better, either rough or dressed one or two sides, no piece should be counted as standard width that is more than $\frac{1}{4}$ -inch scant on 8-inch and under; $\frac{3}{8}$ -inch scant on 9 and 10-inch, or $\frac{1}{2}$ -inch scant on 11 and 12-inch or wider. Such pieces should be measured as the next lower standard width and not reduced in grade. (For width of No. 2 Boards and Fencing, see pages 428 and 430. For dimensions see Secs. 91 and 99).

33. Yellow pine shall be classified as to grain as **Edge Grain** and **Flat Grain**.

Edge Grain has been variously designated as rift sawn, vertical grain, quarter sawn, all being commercially synonymous terms. **Edge grain** stock is especially desirable for Flooring and admits no piece in which the angle of the grain exceeds 45 degrees from vertical at any point.

34. *All dressed stock shall be measured and sold strip count, viz.: Full size of rough material necessarily used in its manufacture.*

All sizes 1 inch or less in thickness shall be counted as 1 inch thick.

35. In standard manufacture of Factory Flooring, Decking or thick dressed and matched stock, and stock grooved for splines, and for thick Shiplap, the finished width shall be $\frac{1}{2}$ -

inch less over all than the count or measured width of the rough material used in manufacture, and the tongue and lap shall be measured to determine the finished width and face measure shall not be standard.

36. "Equivalent" means equal, and in construing and applying these rules, the defects allowed, whether specified or not, are understood to be equivalent in damaging effect to those mentioned applying to stock under consideration.

37. No arbitrary rules for the inspection of lumber can be maintained with satisfaction. The variations from any given rule are numerous and suggested by practical common sense, so nothing more definite than the general features of different grades should be attempted by rules of inspection.

38. Inspection of lumber is not an exact science and a reasonable variation of opinion between inspectors should be recognized; therefore, a variation of not more than 5 per cent upon reinspection should not disturb the original inspection.

39. Lumber must be accepted on grade in the form in which it was shipped. Any subsequent change in manufacture or mill work will prohibit an inspection for the adjustment of claims, except with the consent of all parties interested.

40. The foregoing general observations shall apply to and govern the application of the following specifications.

DRESSED YELLOW PINE FINISHING.

Sizes. Finishing shall be dressed to the following:

1-inch S. 1 S. or 2 S. to 13/16.

1¼-inch S. 1 S. or 2 S. to 1-1/16.

1½-inch S. 1 S. or 2 S. to 1-5/16.

2-inch S. 1 S. or 2 S. to 1¾ inches.

These thicknesses also apply when S. 4 S.

1x4—S. 4 S. shall be 3½ inches wide finished.

1x5—S. 4 S. shall be 4½ inches wide.

1x6—shall be 5½ inches wide, finished.

1x7—6½ inches.

1x8—7½ inches.

1x9—8½ inches.

1x10—9½ inches.

1x11—10½ inches.

1x12—11¼ inches.

The foregoing widths shall also apply to stock thicker than 1 inch.

Widths. On stock width shipments of all Finishing lumber, either rough or dressed one or two sides, no piece should be counted as standard width that is more than $\frac{1}{4}$ -inch scant on 8-inch and under; $\frac{3}{8}$ -inch scant on 9 or 10-inch, or $\frac{1}{2}$ -inch scant on 11 or 12-inch or wider. Such pieces should be measured as the next lower standard width and not reduced in grade.

Lengths. Standard lengths are 4 to 20 feet and in shipments of mixed lengths, 5 per cent of 8 or 9-foot in grade of C and Better shall be admitted.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length in the order for such shipment be specifically stated;—4, 5, 6 and 7 ft. not to be included except by special agreement.)

Grades: A, B and C.

41. **"A" FINISHING**, inch, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, dressed one or two sides, up to and including 8 inches in width, must show one face practically clear of all defects; 9 or 10 inches in width, in addition to the equivalent of one split in end not more than 6 inches long, will admit any one of the following defects: One small pitch pocket, one pin knot, pitch streak or sap stain not to exceed the equivalent of 6 square inches.

One-third of any shipment of 11 and 12-inch, in addition to the equivalent of one split in end which should not exceed in length the width of the piece, will admit any one of the following defects or its equivalent: Three pin knots, three small pitch pockets, one standard pitch pocket, one small pitch streak, small seasoning checks, sap stain equivalent to 8 square inches is allowed. (See Sec. 28).

Thirteen-inch and wider "A" Finishing will admit two of the above defects or their equivalent. Pieces otherwise admissible, which have loosened or torn grain on the face side, shall be put in a lower grade.

42. **"B" FINISHING**, inch, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, dressed one or two sides, up to and including 10 inches in width, in addition to the equivalent of one split in end which should not exceed in length the width of the piece, will admit any two of the following or their equivalent of combined defects: Slight

torn grain, three pin knots, one standard knot, three small pitch pockets, one standard pitch pocket, one standard pitch streak, 5 per cent of sap stain, or firm red heart; wane not to exceed 1 inch in width, $\frac{1}{4}$ -inch in depth and $\frac{1}{6}$ the length of the piece; small seasoning checks.

Eleven-inch and wider "B" Finishing will admit three of the above defects or their equivalent, but sap stain or firm red heart shall not exceed 10 per cent.

43. **"C" FINISHING**, up to and including 10-inch in width will admit, in addition to the equivalent of one split in end which should not exceed in length the width of the piece, any two of the following or their equivalent or combined defects: Twenty-five per cent of sap stain, 25 per cent firm red heart, two standard pitch streaks, medium torn grain in three places in one piece, slight shake, seasoning checks that do not show an opening through, two standard pitch pockets, six small pitch pockets, two standard knots, six pin knots, wane 1 inch in width, $\frac{1}{2}$ -inch in depth and one-third the length of the piece. Defective dressing or slight skips in dressing will also be allowed that do not prevent its use as finish without waste.

Eleven and 12-inch "C" Finishing will admit one additional defect or its equivalent. Pieces wider than 12 inches will admit two additional defects to those admitted in 10-inch or their equivalent, except sap stain, which shall not be increased.

Pieces otherwise as good as "B" will admit of twenty pin worm holes.

44. **Special.** In case both sides are desired A, B or C grade, or free from all defects, special contract must be made. Defective dressing or slight skips in dressing, on the reverse side of Finishing, are admissible. (See Secs. 24, 25 and 36).

PANEL SHOP.

45. **PANEL SHOP** is 10 inches and 12 inches wide, all lengths from 8 to 20 feet or longer. It must be practically free from pitch streaks, but may contain any kind of defects that can be removed by cross-cutting the board; such defects must be limited in number and location so that cross-cutting to remove them will not consume more than one-quarter of the length of the piece, and the residue of the piece shall be suitable for Nos. 1 and 2 Panel, and all lengths 18 inches and

longer, but such residue shall not be considered to be of any special stock length, but will represent the balance of the board after the defects as above named have been removed.

No. 1 Panels must be practically free from defects on both sides and well manufactured.

No. 2 Panels up to 24 inches long will admit any one of the following defects, which may show on both sides: One small sound knot not to exceed $\frac{1}{4}$ -inch in diameter; one small pitch streak; one small pitch pocket, the equivalent of $\frac{1}{8}$ -inch wide and $\frac{1}{16}$ of an inch deep; slight sap stain, slight defect in manufacture. Panels over 24 inches long will admit two of the above knots or pitch pockets if not grouped.

FLOORING.

Sizes. D AND BETTER, 1x3, 1x4 and 1x6 inches shall be worked to $\frac{13}{16}$ of an inch by $2\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{1}{4}$ and $5\frac{1}{4}$ inches.

$1\frac{1}{4}$ -inch Flooring shall be worked to $1\frac{1}{16}$ inches thick and $1\frac{1}{2}$ -inch Flooring shall be worked to $1\frac{5}{16}$ inches thick, the same width and the same matching as 1-inch stock.

Lengths. Standard lengths 4 to 20 feet, with not to exceed 5 per cent of 8-foot or 9-foot lengths in mixed length shipments of B and Better, and in addition 5 per cent of 6-foot or 7-foot in C, D and No. 1 Common, and in addition 5 per cent of 4-foot or 5-foot in No. 2 Common; No. 3 Common Flooring 4 to 20 feet inclusive.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length be specifically stated.)

Grades. A, B, C, D, No. 1 Common, No. 2 Common and No. 3 Sheathing (or No. 3 Common Flooring), Flat Grain; and A, B, C, D and No. 1 Common Edge Grain.

46. **Special.** Defects named in Flooring are based upon a piece manufactured from 1x4—12 feet, and pieces larger or smaller than this will take a greater or lesser number of defects, proportioned to their size on this basis, except that standard knots shall not exceed $1\frac{1}{4}$ -inches in diameter in 3-inch Flooring.

47. **"A" FLAT FLOORING** must be practically free from defects on the face side and well manufactured.

48. **"B" FLAT FLOORING** will admit any two of the following or their equivalent of combined defects: Fifteen per cent sap stain, 15 per cent firm red heart, three pin knots, one standard knot, three small pitch pockets, one standard pitch pocket, one standard pitch streak, slight torn grain, small seasoning checks, six pin worm holes.

49. **"C" FLAT FLOORING** will admit any two of the following defects or their equivalent of combined defects: Twenty-five per cent of sap stain, 25 per cent of firm red heart, two standard pitch streaks, medium torn grain, or other machine defects that will lay without waste; slight shake that does not go through, or seasoning checks that do not show an opening through, two standard pitch pockets, six small pitch pockets, two standard knots or six pin knots, twelve pin worm holes.

50. **EDGE GRAIN FLOORING** shall take the same inspection as Flat Grain, except as to the angle of the grain. (See Sec. 33).

51. **HEART FACE EDGE GRAIN** shall be free from sap on face side.

52. **"D" FLAT FLOORING** will admit the following defects or their equivalent of combined defects: Sound knots not over one-half the cross section of the piece in the rough at any one point throughout its length; three pith knots, pitch, pitch pockets, sap stain, firm red heart, seasoning checks that do not show an opening through, shake that does not go through, a limited number of pin worm holes well scattered, loosened or heavy torn grain, or other machine defects that will lay without waste.

Pieces otherwise as good as "B" Flooring may have one defect (like a knot hole) that can be cut out by wasting $1\frac{1}{2}$ inches of the length of the piece, provided both pieces are 16 inches or over in length after cutting out such defects.

53. **No. 1 COMMON FLOORING** is the combined grade of C and D Flooring, and will admit all pieces that will not grade "B," and are better than No. 2 Common.

54. **No. 2 COMMON FLOORING** admits all pieces that will not grade as good as "D" Flooring that can be used for cheap floors without a waste of more than one-fourth the length of any one piece. (See Sec. 26).

55. **No. 3 SHEATHING (OR No. 3 COMMON FLOORING)** will admit all pieces that cannot be used as No. 2 Common Flooring, but are still available as cheap sheathing or lathing without a waste of more than one-fourth the length of any one piece.

56. **CENTER MATCHED FLOORING (or S. 2 S. and C. M.)** shall be required to come up to grade on one side only, and the defects admissible on the reverse side of standard matched shall be allowed.

57. **No. 1 COMMON FACTORY FLOORING** will admit of sound knots not over one half the cross-section of the piece at any point throughout the length; pitch pockets, sap stain, shakes that do not go through, firm red heart, seasoning checks which do not show an opening through the piece, wane one-fourth inch deep on the face, a limited number of pin worm holes well scattered, loosened or heavy torn grain or other machine defects which will lay without waste, and pith knots which will not cause a leakage of grain. (See Secs. 35 and 123).

CEILING.

Sizes. Ceiling shall be worked to the following: $\frac{3}{8}$ -inch Ceiling, $\frac{5}{16}$ -inch; $\frac{1}{2}$ -inch Ceiling, $\frac{7}{16}$ -inch; $\frac{5}{8}$ -inch Ceiling, $\frac{9}{16}$ -inch; $\frac{3}{4}$ -inch Ceiling, $\frac{11}{16}$ -inch; same widths as Flooring. The bead on all Ceiling and Partition shall be depressed $\frac{1}{32}$ of an inch below surface line of piece.

Lengths. Standard lengths are 4 to 20 feet. Five per cent of 8 or 9 feet is allowed in mixed length shipments of B and Better Ceiling, and in addition 5 per cent of 6 or 7 feet in No. 1 Common, and in addition 5 per cent of 4 to 5 feet in No. 2 Common.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length be specifically stated.)

Grades: A, B, No. 1 and No. 2 Common.

58. **Special.** Defects named in Ceiling are based upon a piece manufactured from 1x4—12 feet, and pieces larger or smaller than this will take a greater or lesser number of defects, proportioned to their size on this basis.

59. **"A" CEILING** must be practically free from defects on the face side and well manufactured.

60. **"B" CEILING** will admit of any two of the following defects or their equivalent of combined defects: Slight torn grain, three pin knots, one standard knot, three small pitch pockets, one standard pitch pocket, one small pitch streak, small seasoning checks, 15 per cent sap stain, 15 per cent firm red heart, six pin worm holes.

61. **No. 1 COMMON CEILING** will admit the following defects or their equivalent of combined defects: Sound knots not over one-half the cross-section of piece in the rough; sap stain, pitch, pitch pockets, firm red heart, slight shake, heavy torn grain, seasoning checks that do not show an opening through; defects in manufacture that will lay without waste, a limited number of pin worm holes well scattered.

Pieces otherwise as good as "B" Ceiling may have one defect (like a knot hole) that can be cut out by wasting $1\frac{1}{2}$ inches of the length of the piece, provided both pieces are 16 inches or over in length after cutting out such defects.

62. **No. 2 COMMON CEILING** admits of all pieces not as good as No. 1 Common that can be used without waste of more than one-fourth the length of any one piece. (See Sec. 26).

WAGON BOTTOMS.

Sizes. Wagon Bottoms, unless otherwise ordered (see Sec. 29), shall be made in sets of 38 and 42 inches face, and from stock 4 inches or over in width. Standard thickness shall be $\frac{13}{16}$ of an inch.

Grades: *A and B.*

63. **WAGON BOTTOMS**, unless otherwise ordered (see Sec. 29), shall be graded the same as "A" and "B" Flat Flooring.

DROP SIDING.

Sizes. D and M (dressed and matched), shall be worked to $\frac{3}{4} \times 3\frac{1}{4}$ and $5\frac{1}{4}$ inches face, $3\frac{1}{2}$ and $5\frac{1}{2}$ inches over all. Worked Shiplap to $\frac{3}{4} \times 3$ -inch face, $3\frac{1}{2}$ inches over all, $\frac{3}{4} \times 5$ -inch face, $5\frac{1}{2}$ inches over all.

Patterns that are not shown in Southern Pine Association Moulding Book of 1916 Edition are considered special.

Lengths. Standard lengths 4 to 20 feet, 5 per cent of 8 or 9 feet is allowed in mixed length shipments of "B" and Better Drop Siding, and in addition 5 per cent of 6 or 7 feet in No. 1 Common, and in addition 5 per cent of 4 or 5 feet in No. 2 Common.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length be specifically stated.)

Grades: *A, B, No. 1 and No. 2 Common.*

64. **Special.** Defects named in Drop Siding are based upon a piece manufactured from 1x6—12 feet, and pieces larger or smaller than this will take a greater or lesser number of defects, proportioned to their size on this basis.

(For Grades of 8-inch and wider barn siding see Secs. 77 and 79). (For size see Sec. 116).

65. **"A" DROP SIDING** must be practically free from defects on the face side and well manufactured.

66. **"B" DROP SIDING** will admit any two of the following defects or their equivalent of combined defects: Medium torn grain, three pin knots, one standard knot, 15 per cent sap stain, 15 per cent firm red heart, small seasoning checks, six pin worm holes, or any one of the above defects combined with one of the following: Three small pitch pockets or one small pitch streak.

67. **No. 1 COMMON DROP SIDING** will admit one standard pitch streak, or one standard pitch pocket or their equivalent, and in addition sound knots not over half the width of piece in the rough; sap stain, firm red heart, slight shake, heavy torn grain, defects in manufacture that will lay without waste, seasoning checks that do not show an opening through, a limited number of pin worm holes well scattered.

Pieces otherwise as good as "B" Drop Siding may have one defect (like a knot hole) that can be cut out by wasting $1\frac{1}{2}$ inches of the length of the piece, provided both pieces are 16 inches or over in length after cutting out such defects.

68. **No. 2 COMMON DROP SIDING** admits of all pieces not as good as No. 1 Common that can be used without waste or more than one-fourth the length of any one piece.

BEVEL SIDING.

Sizes. Bevel Siding shall be made from stock S. 4 S. worked to 13/16 of an inch by 3½ and 5½ and resawed on a bevel.

Lengths. Standard lengths 4 to 20 feet. Five per cent of 8 or 9 feet is allowed in mixed length shipments of "B" and Better Bevel Siding, and in addition 5 per cent of 6 or 7 feet in No. 1 Common, and in addition 5 per cent of 4 or 5 feet in No. 2 Common.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length be specifically stated.)

Grades: A, B, No. 1 and No. 2 Common.

69. **BEVEL SIDING** shall be graded according to the rules for Drop Siding, and will admit in addition slight imperfections on the thin edge, which will be covered by the lap when laid 2½ and 4½ inches to the weather.

PARTITION.

Sizes. Partition shall be worked to ¾x3¼ and 5¼ inches.

Lengths. Same percentage of short lengths allowed as in Ceiling.

Grades: A, B, No. 1 and No. 2 Common.

70. **PARTITION** shall be graded according to Ceiling rules, and must meet the requirements of the specified grades on the face side only, but the reverse side shall not be more than one grade lower, and shall not cause waste in No. 1 Common and Better.

MOULDED CASING AND BASE, WINDOW AND DOOR JAMBS.

Sizes of Moulded Casing and Base shall be worked to ¾-inch as per patterns shown in Southern Pine Association Moulding Book, 1916 Edition. (See Sec. 34). (For widths of Plain Casing, see Finishing S. 4 S.)

WINDOW AND DOOR JAMBS, Dressed, Rabbeted and Plowed as ordered. (See Sec. 34).

Grades: A, B and C.

71. **"A" MOULDED CASING AND BASE** must be practically free from defects on the face side and well manufactured.

72. **"B" CASING OR BASE** shall admit the same defects as are admissible in the same widths of "B" Finishing, except wane. (See Sec. 42).

73. **"C" CASING OR BASE** shall admit the same defects as are admissible in the same widths of "C" Finishing, except wane. (See Sec. 43).

74. **WINDOW AND DOOR JAMBS** shall be graded the same as Moulded Casing and Base. (See Sec. 34 for width).

75. **"B" AND BETTER MOULDING.** One-third of any item may contain any one of the following defects or its equivalent: One pin knot, small pitch pockets, pitch 1 inch wide, 6 inches long; slight sap stain covering six inches of the length of the piece; three pin worm holes; slight defects in dressing. (See Sec. 28). Standard lengths: Eight feet and longer, and in shipments of mixed lengths 5 per cent of 6 or 7 feet shall be admitted, even though the number of feet of each length be specifically stated.

Sizes as per Southern Pine Association Moulding Book, 1916 Edition.

COMMON BOARDS, SHIPLAP AND BARN SIDING.

Sizes of Boards. One-inch S. 1 S. or 2 S. to 13/16, 1¼-inch S. 1 S. or 2 S. to 1-1/16, 1½-inch, S. 1 S. or 2 S. to 1-5/16. These thicknesses also apply to S. 4 S.

All 1-inch Common lumber which is ordered dressed one or two sides, one edge may be dressed to bring the width ⅛-inch scant of full width.

Widths. In stock width shipments of No. 1 Common, either rough or dressed one or two sides, no piece should be counted as standard width that is more than ¼-inch scant on 8-inch and under; ⅜-inch scant on 9 or 10-inch, or ½-inch scant on 11 or 12-inch or wider. Pieces narrower than this should be measured as the next lower standard width and not reduced in grade. Material when ordered worked two faces to serve two purposes, like Grooved Roofing S. 2 S., Shiplap S. 2 S., Center Matched S. 2 S., or one face, worked to a pattern, like Barn Siding, shall be inspected from the best face; 1¼-inch and 1½-inch Common shall take the same inspection as 1-inch boards.

Boards 1x8, S. 4 S. shall be worked $7\frac{1}{2}$ inches wide; 1x9— $8\frac{1}{2}$ inches; 1x10— $9\frac{1}{2}$ inches; 1x11— $10\frac{1}{2}$ inches; 1x12— $11\frac{1}{4}$ inches.

Sizes of No. 1 Common D. and M. and Barn Siding. Eight, 10 and 12-inch shall be worked to $\frac{3}{4} \times 7\frac{1}{8}$, $9\frac{1}{8}$ and $11\frac{1}{8}$ inches. Shiplap worked to $\frac{3}{4}$ -inch thick, face same width as D. and M. and Barn Siding.

Standard lengths are multiples of two feet, 4 to 24 feet, inclusive, in any manufacture of Common Boards; in mixed lengths and miscellaneous shipments not more than 5 per cent of 8 feet shall be included in No. 1 and No. 2 Common, with an additional 5 per cent of 4 and 6 feet in shipments of No. 3 and No. 4 Common, except by special agreement.

Grades: *No. 1, No. 2, No. 3 and No. 4 Common.*

NO. 1 COMMON BOARDS.

76. **No. 1 COMMON BOARDS**, dressed one or two sides, will admit any number of sound knots, the mean or average diameter of any one knot should not be more than 2 inches in stock 8 inches wide, nor more than $2\frac{1}{2}$ inches in stock 10 and 12 inches wide; two pith knots; the equivalent of one split, not to exceed in length the width of the piece; torn grain, pitch, pitch pockets, slight shake, sap stain, seasoning checks, firm red heart, wane $\frac{1}{2}$ -inch deep on the edge not exceeding 1-inch in width and one-third the length of the piece, or its equivalent; and a limited number of pin worm holes well scattered; or defects equivalent to the above.

77. **No. 1 COMMON SHIPLAP OR D. & M. AND BARN SIDING** shall be graded by rules governing No. 1 Common Boards, except as to wane, which shall not be so deep as to extend into the tongue or one-half the thickness of the top lip on the groove in D. & M., or over one-half the thickness of the lap in Shiplap on the face side. (See Sec. 26).

GROOVED ROOFING.

Sizes of Grooved Roofing. Ten and 12-inch S. 1 S. and 2 E. shall be worked to 13/16 by $9\frac{1}{2}$ and $11\frac{1}{4}$ inches.

Size of Groove to be $\frac{1}{2}$ -inch wide, $\frac{1}{4}$ -inch deep and located 13/16-inches from outer edge of the groove to edge of board.

Standard lengths are multiples of two feet, 4 to 24 feet, inclusive, but lengths shorter than 10 feet shall not be included in miscellaneous or mixed lengths shipments except by agreement.

78. **GROOVED ROOFING** shall be graded by rules governing No. 1 Common Boards, omitting the pith knots, worm holes, splits and seasoning checks that show an opening through.

**No. 2 COMMON BOARDS, D. & M., OR SHIPLAP,
GROOVED ROOFING AND BARN SIDING.**

Sizes. One-inch S. 1 S. or 2 S. to $13/16$; $1\frac{1}{4}$ -inch S. 1 S. or 2 S. to $1\frac{1}{16}$; $1\frac{1}{2}$ -inch S. 1 S. or 2 S. to $1\frac{5}{16}$ inches. These thicknesses also apply when S: 4 S., Shiplap, D. & M. and Barn Siding worked to $\frac{3}{4}$ -inch thick.

Widths. On stock width shipments of No. 2 Common, either rough or dressed one or two sides, no piece should be counted as standard width that is more than $\frac{1}{2}$ -inch scant on 8-inch and under; $\frac{5}{8}$ -inch on 9 or 10-inch, and $\frac{3}{4}$ -inch on 11 and 12-inch or wider. Pieces narrower than this should be measured as the next lower standard of width and not reduced in grade.

No. 2 COMMON BOARDS.

79. **No. 2 COMMON BOARDS**, dressed one or two sides; **No. 2 Shiplap, Grooved Roofing, D. & M. and Barn Siding** will admit knots not necessarily sound; but the mean or average diameter of any one knot shall not be more than one-third of the cross section if located on the edge, and shall not be more than one-half of the cross-section if located away from the edge; if sound may extend one-half the cross-section if located on the edge, except that no knot, the mean or average diameter of which exceeds 4 inches should be admitted; worm holes, splits one-fourth the length of the piece, wane 2 inches wide or through heart shakes, one-half the length of the piece; through rotten streaks $\frac{1}{2}$ -inch wide one-fourth the length of the piece, or its equivalent of unsound red heart; or defects equivalent to the above.

A knot hole 3 inches in diameter will be admitted, provided the piece is otherwise as good as No. 1 Common.

80. Miscut 1-inch Common Boards which do not fall below $\frac{3}{4}$ -inch in thickness shall be admitted in No. 2 Common,

provided the grade of such thin stock is otherwise as good as No. 1 Common.

No. 3 COMMON BOARDS.

81. **No. 3 COMMON BOARDS, No. 3 COMMON SHIP-LAP, D. & M. AND BARN SIDING** is defective lumber, and will admit of coarse knots, knot holes, very wormy pieces, red rot and other defects that will not prevent its use as a whole for cheap sheathing, or which will cut 75 per cent of lumber as sound as No. 2 Common.

No. 4 COMMON BOARDS.

82. **No. 4. COMMON BOARDS** shall include all pieces that fall below the grade of No. 3 common, excluding such pieces as will not be held in place by nailing, after wasting one-fourth the length of the piece by cutting into two or three pieces; mill inspection to be final.

FENCING.

3, 4, 5 AND 6 INCHES WIDE.

Sizes. One-inch S. 1 S. or 2 S. to 13/16, 1¼-inch S. 1 S. or 2 S. to 1-1/16, 1½-inch S. 1 S. or 2 S. to 1-5/16. These thicknesses also apply when S. 4 S.

When 4 and 6-inch Fencing is S. 2 S. and C. M., the finished thickness shall be ¾-inch and inspected under flooring rules.

Widths. On stock widths of 3, 4, 5 and 6-inch No. 1 Common, no piece shall be counted as standard width that is more than ¼-inch scant in width. Pieces narrower than this should be measured as the next lower standard width and not reduced in grade.

Grades: *No. 1, No. 2, No. 3 and No. 4 Common.*

No. 1 FENCING.

83. **No. 1 FENCING** shall admit of the following defects or their equivalent: Sound knots, the mean or average diameter of any one knot shall not be more than 2 inches in 5 and 6-inch stock, nor more than 1½ inches in 3 and 4-inch stock, three pith knots, wane ½-inch deep on edge, not exceeding 1 inch wide one-third the length of the piece; torn grain, pitch, pitch pockets, sap stain, seasoning checks, slight shake, firm red

heart and a limited number of small worm holes well scattered, and the equivalent of one split not to exceed in length the width of the piece.

No. 2 FENCING.

Sizes. One-inch S. 1 S. or 2 S. to 13/16-inch.

Widths. In 3, 4, 5 and 6-inch No. 2 Common stock no piece shall be counted as standard width that is more than 1/2-inch scant in width. Such pieces should be measured as the next lower standard width and not reduced in grade.

84. **No. 2 FENCING** in addition to the defects allowed in No. 1 Common will admit the following defects or their equivalent: Knots, not necessarily sound, the mean or average diameter of any one knot shall not be more than one-half the cross-section if located on the edge, and shall not be more than two-thirds of the cross-section if located away from the edge; one split one-fourth the length of the piece; worm holes; through rotten streaks, 1/2-inch wide, one-fourth the length of the piece, or the equivalent of unsound red heart; shake or wane, but must not cut to waste.

A knot hole 1 1/2 inches in diameter or its equivalent in small hollow knots will be allowed, provided the piece is otherwise as good as No. 1 Common.

85. Miscut 1-inch Common Fencing which does not fall below 3/4-inch in thickness shall be admitted in No. 2 Common, provided the grade of such thin stock is otherwise as good as No. 1 Common.

No. 3 FENCING.

86. **No. 3 FENCING** is defective lumber, and will admit of coarse knots, knot holes, very wormy pieces, red rot and other defects that will not prevent its use as a whole for cheap sheathing, or which will cut 75 per cent of lumber as sound as No. 2 Common.

No. 4 FENCING.

87. **No. 4 FENCING** shall include all pieces that fall below the grade of No. 3 common, excluding such pieces as will not be held in place by nailing, after wasting one-fourth the length of the piece by cutting into two or three pieces; mill inspection to be final.

DIMENSION AND HEAVY JOIST.

Sizes. Dimension shall be worked to the following: 2x4 S. 1 S. and 1 E. to $1\frac{5}{8} \times 3\frac{5}{8}$ inches; 2x6 S. 1 S. and 1 E. to $1\frac{5}{8} \times 5\frac{5}{8}$ inches; 2x8 S. 1 S. and 1 E. to $1\frac{5}{8} \times 7\frac{1}{2}$ inches; 2x10 S. 1 S. and 1 E. to $1\frac{5}{8} \times 9\frac{1}{2}$ inches; 2x12 S. 1 S. and 1 E. to $1\frac{5}{8} \times 11\frac{1}{2}$ inches. Dimension S. 4 S. $\frac{1}{8}$ -inch less in thickness and width than S. 1 S. 1 E. shall be standard, but no objection shall be made to stock finished to the standard size for S. and E.

HEAVY JOISTS shall be worked to the following: 2x14, $2\frac{1}{2}$ and 3x10, 3x12 and 3x14, S. 1 S. and 1 E., green, $\frac{1}{4}$ -inch off side and $\frac{1}{2}$ -inch off edge; S. 4 S. $\frac{1}{4}$ -inch off each face surfaced. Heavy Joists, rough, green, must not be over $\frac{1}{4}$ -inch scant in width or thickness.

Dry 2x14 shall be dressed to the standard thickness of 2x12.

Lengths. Standard lengths are multiples of two feet, 4 to 24 feet, inclusive, but lengths shorter than 10 feet shall not be included in miscellaneous or mixed length shipments, except by agreement.

Grades: *No. 1, No. 2 and No. 3 Common.*

88. Inspection of Dimension is a question of strength and uniformity of size, and whatever reduces its strength in cross-section must be considered a defect to that extent. In computing the area of cross-section occupied by defects the size of the piece in the rough must be considered.

89. **No. 1 COMMON DIMENSION AND HEAVY JOISTS** will admit sound knots, none of which in 2x4s should be larger than two inches in diameter on one or both sides of the piece, and on wider stock which do not occupy more than one-third of the cross-section at any point throughout its length, if located at the edge of the piece, or more than one-half of the cross-section if located away from the edge; pith knots, or smaller defective knots which do not weaken the piece more than the knot aforesaid; will admit of seasoning checks, firm red heart, heart shakes that do not go through; wane $\frac{3}{4}$ of an inch deep on edge, one-fourth the width and one-third the length of the piece; pitch, sap stain, pitch pockets, splits in ends not exceeding in length the width of the piece, a limited number of small worm holes well scattered, and such other

defects as do not prevent its use as substantial structural material.

90. **No. 2 COMMON DIMENSION** may have knots not necessarily sound, which do not occupy more than one-half of the cross-section at any one point if located at the edge of the piece, nor more than two-thirds of the cross-section if located away from the edge; smaller, loose, hollow or rotten knots that do not weaken the piece more than the knots aforesaid; will admit rotten streaks, shake, wane, worm holes, split not to exceed one-quarter the length of the piece, and other defects which do not prevent its use without waste.

91. Miscut 2-inch Common stock which does not fall below $1\frac{1}{2}$ inches in thickness, or $\frac{1}{8}$ -inch scant in width, from standard size shall be admitted in No. 2 Common, provided such pieces are in all other respects as good as No. 1 Common at point of miscut.

92. **No. 3 DIMENSION** will include all pieces falling below No. 2 Grade which are sound enough to use for cheap building material by wasting 25 per cent of each piece of one-third of number of pieces in any item of a shipment, but it must not be more than $\frac{1}{2}$ -inch scant of standard finished width nor $\frac{3}{8}$ -inch scant of standard finished thickness. (See Sec. 28).

ROUGH YELLOW PINE FINISHING.

Widths. On stock width shipments of "C and Better" Finish, either rough or dressed, one or two sides, no piece should be counted as standard width that is more than $\frac{1}{4}$ -inch scant on 8-inch and under; $\frac{3}{8}$ -inch scant on 9 and 10-inch, or $\frac{1}{2}$ -inch scant on 11 and 12-inch or wider. Such pieces should be measured as the next lower standard of width and not reduced in grade.

Lengths. Standard lengths are 4 to 20 feet, and in shipments of mixed lengths 5 per cent of 8 or 9 feet in grade of "C and Better" shall be admitted.

(The above percentage is allowed in all shipments of mixed lengths, even though the number of feet of each length be specifically stated;—4, 5, 6 and 7 feet lengths not to be included except by special agreement.)

93. Finish must be evenly manufactured, and shall embrace all sizes from 1 to 2 inches in thickness by 3 inches and over in width.

94. One-inch, $1\frac{1}{4}$ and $1\frac{1}{2}$ -inch Finishing lumber, unless otherwise ordered, shall measure, when dry, not more than $1/16$ -inch scant in thickness; on 2-inch it may measure $1/8$ -inch scant.

95. Wane, seasoning checks and other defects that will dress out in working to standard thickness and widths are admissible.

96. Subject to the foregoing provisions Rough Finishing shall be graded according to the specifications applying to Dressed Finishing lumber.

97. All Finishing lumber, ordered rough, if thicker than the count thickness for dry or green stock, may be dressed to such count thickness, and when so dressed shall be considered as rough. When like grade on both faces is required, **special contract must be made.**

COMMON BOARDS, FENCING AND DIMENSION.

98. **ROUGH 1-INCH COMMON BOARDS AND FENCING** should not be less than $7/8$ -inch thick when dry; $1\frac{1}{4}$ -inch and $1\frac{1}{2}$ -inch, $1/8$ -inch scant of count thickness.

99. **ROUGH 2-INCH COMMON** should not be less than $1\frac{7}{8}$ inches thick when green, or $1\frac{3}{4}$ inches thick when dry. The several widths should not be less than $1/8$ -inch over the standard dressing width for such stock when dry.

100. **ROUGH COMMON DIMENSION** of a greater thickness than 2 inches and less than 4 inches shall be subject to special contract as to thickness and width.

101. **ROUGH DIMENSION**, if thicker than count thickness for dry or green stock, may be dressed to such count thickness, and when so dressed shall be considered as rough stock.

102. The defects admissible in Rough Boards, Fencing and Dimension shall be the same as those applying to dressed stock of like kind and grade, and such further defects as would disappear in dressing to standard sizes of such material shall be allowed.

YELLOW PINE LATH.

103. **No. 1 LATH** should measure 2 inches in thickness to every five lath, green. The minimum thickness of any one lath shall not be less than $5/16$ of an inch, green, and should not be less than $1-7/16$ inches, in width, green, length 4 feet; $1\frac{5}{8}$ inches thickness to every five lath, dry, and should not measure less than $1-5/16$ inches in width when dry. Will admit wane $1/8$ -inch deep, $1/4$ -inch on face and 6 inches long; pin worm holes and one pin knot. Must not be more than $1/2$ -inch short in length. Blue sap stain shall not be considered a defect.

Lath 1 inch wide and 48 inches long may be furnished when ordered on the above specifications.

Lath 32 inches long may be furnished when ordered on the above specifications.

104. **No. 2 LATH** shall consist of pieces that fall below the grade of No. 1 which are not less than $1\frac{1}{4}$ inches in width, $1/4$ of an inch thick, when dry, and are not more than $3/4$ -inch short in length. Will admit wane, worm holes, knots and other defects that will not prevent their use without waste.

BYRKIT LATH.

Sizes. $3/4 \times 3\frac{1}{2}$ and $5\frac{1}{4}$ inches wide; lengths 4 feet and upward.

105. **STANDARD BYRKIT LATH** shall consist of material that will be held firmly in place and support plaster by ordinary nailing, by not wasting more than 10 per cent of any piece and that will present a full surface with no openings over $1/2$ -inch in width and 3 inches in length. The ends of pieces of Byrkit Lath are not expected to meet on studding, and only such quantity shall be counted waste as is necessary to remove a defect.

STANDARD SIZES OF DRESSED LUMBER.

106. Finishing shall be dressed to the following sizes:

1-inch S. 1 S. or 2 S. to $13/16$.

$1\frac{1}{4}$ -inch S. 1 S. or 2 S. to $1-1/16$.

$1\frac{1}{2}$ -inch S. 1 S. or 2 S. to $1-5/16$.

2-inch S. 1 S. or 2 S. to $1\frac{3}{4}$ inches. These thicknesses also apply when S. 4 S.

The Standard Widths of S. 4 S. shall be as follows:

1x4 shall be $3\frac{1}{2}$ inches.

1x5 shall be $4\frac{1}{2}$ inches.

1x6 shall be $5\frac{1}{2}$ inches.

1x7 shall be $6\frac{1}{2}$ inches.

1x8 shall be $7\frac{1}{2}$ inches.

1x9 shall be $8\frac{1}{2}$ inches.

1x10 shall be $9\frac{1}{2}$ inches.

1x11 shall be $10\frac{1}{2}$ inches.

1x12 shall be $11\frac{1}{4}$ inches.

The foregoing widths shall also apply to stock thicker than 1-inch.

107. **Moulded Casing and Base** shall be worked to $\frac{3}{4}$ -inch, as per patterns shown in Southern Pine Association Moulding Book, 1916 Edition.

108. **Flooring.** The standard of 1x3, 1x4 and 1x6 inches "D and Better" shall be worked to $13/16 \times 2\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{1}{4}$ and $5\frac{1}{4}$ inches; $1\frac{1}{4}$ -inch Flooring shall be worked to 1-1/16 inches thick, $1\frac{1}{2}$ -inch Flooring shall be worked to 1-5/16 inches thick, the same width and matching as 1-inch stock.

109. **Drop Siding.** D. & M. shall be worked to $\frac{3}{4} \times 3\frac{1}{4}$ and $5\frac{1}{4}$ -inch face, $3\frac{1}{2}$ and $5\frac{1}{2}$ over all. Worked Shiplap $\frac{3}{4} \times 3$ -inch face, $3\frac{1}{2}$ over all; $\frac{3}{4} \times 5$ -inch face, $5\frac{1}{2}$ over all.

Patterns that are not shown in Southern Pine Association Moulding Book of 1916 Edition are considered special.

110. **Ceiling** shall be worked to the following:

$\frac{3}{8}$ -inch Ceiling, 5/16-inch.

$\frac{1}{2}$ -inch Ceiling, 7/16-inch.

$\frac{5}{8}$ -inch Ceiling, 9/16-inch.

$\frac{3}{4}$ -inch Ceiling, 11/16-inch.

Same width as Flooring.

The standard working of Ceiling shall be beaded center and edge with slight bevel on groove edge.

The bead on all Ceiling and Partition shall be depressed 1/32 of an inch below surface line of piece.

111. **Partition** shall be worked to the following: $\frac{3}{4} \times 3\frac{1}{4}$ and $5\frac{1}{4}$ inches, with same standard for location and size of bead as applies to Ceiling. (See Sec. 110.)

112. **Bevel Siding** to be made from stock S. 4 S. worked to $13/16 \times 3\frac{1}{2}$ and $5\frac{1}{2}$ and resawed on a bevel.

113. **Window and Door Jambs**, Dressed Rabbeted and Plowed as ordered. (See Sec. 34).

114. **Boards and Fencing**. One-inch S. 1 S. or 2 S. to 13/16-inch, also when S. 4 S.

115. **Barn Siding**, D. & M.; 8, 10 and 12 inches, shall be worked to $\frac{3}{4} \times 7\frac{1}{8}$, $9\frac{1}{8}$ and $11\frac{1}{8}$ inches face; $7\frac{3}{8}$, $9\frac{3}{8}$ and $11\frac{3}{8}$ inches over all.

116. **Barn Siding Shiplap**, 8, 10 and 12 inches shall be worked to $\frac{3}{4} \times 7\frac{1}{8}$, $9\frac{1}{8}$ and 11 $\frac{1}{8}$ -inch face, with $\frac{3}{8}$ -inch lap, $\frac{3}{8}$ -inch thick and $\frac{3}{8}$ -inch long; $7\frac{1}{2}$, $9\frac{1}{2}$ and $11\frac{1}{2}$ inches over all.

117. **D. & M. Common Boards**, 8, 10 and 12 inches shall be worked to the following: $\frac{3}{4} \times 7\frac{1}{8}$, $9\frac{1}{8}$ and $11\frac{1}{8}$ inches; $7\frac{3}{8}$, $9\frac{3}{8}$ and $11\frac{3}{8}$ inches over all.

118. **Grooved Roofing**. Ten and 12-inch S. 1 S. and 2 E. shall be worked to 13/16 x $9\frac{1}{2}$ and 11 $\frac{1}{4}$.

119. **Wagon Bottoms**, unless otherwise ordered (see Sec. 32), shall be made in sets 38 and 42 inches face, and from stock 4 inches or over in width. Standard thicknesses shall be 13/16-inch.

120. **Dimension** shall be worked to the following:

2x4 S. 1 S. and 1 E. to $1\frac{5}{8} \times 3\frac{5}{8}$ inches.

2x6 S. 1 S. and 1 E. to $1\frac{5}{8} \times 5\frac{5}{8}$ inches.

2x8 S. 1 S. and 1 E. to $1\frac{5}{8} \times 7\frac{1}{2}$ inches.

2x10 S. 1 S. and 1 E. to $1\frac{5}{8} \times 9\frac{1}{2}$ inches.

2x12 S. 1 S. and 1 E. to $1\frac{5}{8} \times 11\frac{1}{2}$ inches.

Dimension S. 4 S. $\frac{1}{8}$ -inch less than standard size S. 1 S. and 1 E.

121. All sizes in **Dimension** are subject to natural shrinkage.

122. **Heavy Joists** shall be worked to the following: 2x14, 2 $\frac{1}{2}$ and 3x10, 12 and 14, S. 1 S. and 1 E., green, $\frac{1}{4}$ -inch off side and $\frac{1}{2}$ -inch off edge, S. 4 S. $\frac{1}{4}$ -inch off each face surfaced. Heavy Joists, rough, green, should not be over $\frac{1}{4}$ -inch scant in width or thickness.

123. **Heavy Flooring**. For 2 and 2 $\frac{1}{2}$ -inch matching the thickness should be $\frac{3}{8}$ -inch less than the rough material when surfaced one side; when S. 2 S. should be 7/16-inch less than count thickness, or 1/16-inch less than when S. 1 S. The tongue should be $\frac{3}{8}$ -inch thick and $\frac{3}{8}$ -inch long. For 3-inch and thicker matching the tongue should be $\frac{3}{4}$ -inch thick and $\frac{3}{8}$ -inch

long, and the thickness of the stock should be $\frac{3}{8}$ -inch less than the rough material. The groove in heavy matchings should be $\frac{1}{16}$ -inch wider than the thickness of the tongue, and $\frac{1}{16}$ -inch deeper than the length of the tongue.

Tongue and groove shall be located one-quarter the thickness of the rough material from the bottom of the piece.

In 2-inch and thicker material plowed for splines, the groove should be the same width and depth as is provided for in matching material of the same thickness.

Heavy Shiplap shall be worked to the same thickness as Heavy Flooring. The lap shall be $\frac{1}{2}$ -inch long, occupying one-half the finished thickness of the piece.

124. **Timbers** shall be worked to the following: 4x4 and larger S. 1 S. or S. and E. $\frac{3}{8}$ -inch off each face surfaced; S. 3 S. or S. 4 S. $\frac{1}{4}$ -inch off each face surfaced.

125. All sizes in **Timbers** are subject to natural shrinkage.

SIZE OF YELLOW PINE LATH.

126. **No. 1 Lath** should measure 2 inches in thickness to every five lath, green; the minimum thickness of any one lath shall not be less than $\frac{5}{16}$ of an inch, green, and should not be less than $1\frac{7}{16}$ inches in width, green, length 4 feet; $1\frac{5}{8}$ inches thickness to every five lath, dry; and should not measure less than $1\frac{5}{16}$ inches in width, dry. Must not be more than $\frac{1}{2}$ -inch short in length.

Lath 1 inch wide and 48 inches long may be furnished when ordered on the above specifications.

Lath 32 inches long may be furnished when ordered on the above specifications.

127. **No. 2 Lath** must be not less than $1\frac{1}{4}$ inches in width, $\frac{1}{4}$ -inch thick when dry, and not more than $\frac{3}{4}$ -inch short in length.

128. **Byrit Lath** to be $\frac{3}{4} \times 3\frac{1}{2}$ and $5\frac{1}{4}$ inches wide; lengths, 4 feet and upward.

PICKETS.

129. **Square Pickets** from $1\frac{1}{2}$ -inch stock shall be worked to $1\frac{5}{16} \times 1\frac{5}{16}$, 3 and 4 feet long, dressed on four sides and pointed; $1\frac{1}{4}$ -inch stock shall be worked to $1\frac{1}{16} \times 1\frac{1}{16}$, 3 and 4 feet long, dressed on four sides and pointed.

130. **Flat Pickets** from 1x3 stock shall be worked to $\frac{3}{4} \times 2\frac{1}{4}$, 3 and 4 feet long, dressed on four sides and headed.

AVERAGE WEIGHTS OF SOUTHERN YELLOW PINE WHEN WORKED TO STANDARD SIZE.

For Hollow Back Flooring, Ceiling and Drop Siding, Deduct
100 Pounds.

LONG LEAF

Dry

Flooring, $13/16 \times 2\frac{1}{4}$	2,000
Flooring, $13/16 \times 3\frac{1}{4}$	2,200
Flooring, $13/16 \times 5\frac{1}{4}$	2,400
Ceiling, $\frac{3}{8}$	1,000
Ceiling, $\frac{1}{2}$	1,200
Ceiling, $\frac{5}{8}$	1,500
Ceiling, $\frac{3}{4}$	1,800
Partition, $\frac{3}{4}$	1,900
Siding, from inch stock..	1,100
Siding, from $1\frac{1}{4}$ -inch stock	1,400
Drop Siding to $\frac{3}{4}$	1,900
Moulded Casing, $4\frac{1}{2}$ to $5\frac{1}{4}$	2,000
Moulded Base, from 8, 10, 12-inch stock	2,100
Finish, inch, S. 1 S. or S. 2 S. to $13/16$	2,600
Finish, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2- inch, S. 1 S. or S. 2 S. to Standard Thickness..	2,800
Finish, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2- inch, rough	3,400

Shipping Dry

Shiplap and D. & M., $\frac{3}{4}$..	2,400
Grooved Roofing, $13/16$..	2,600
Com. Boards and Fencing 1x4, 6, 8 or 10 inch, S. 1 S. or 2 S. to $13/16$..	2,700

SHORT LEAF

Dry

Flooring, $13/16 \times 2\frac{1}{4}$	1,800
Flooring, $13/16 \times 3\frac{1}{4}$	2,000
Flooring, $13/16 \times 5\frac{1}{4}$	2,200
Ceiling, $\frac{3}{8}$	900
Ceiling, $\frac{1}{2}$	1,100
Ceiling, $\frac{5}{8}$	1,400
Ceiling, $\frac{3}{4}$	1,700
Partition, $\frac{3}{4}$	1,800
Siding, from inch stock..	1,000
Siding, from $1\frac{1}{4}$ inch stock	1,250
Drop Siding, $\frac{3}{4}$ and Moulded Casing	1,800
Moulded Base	2,000
Finish, inch S. 1 S. or S. 2 S.	2,500
Finish, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2- inch, S. 1 S. or S. 2 S. ..	2,700
Finish, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2- inch rough	3,200

Shipping Dry

Shiplap and D. & M., $\frac{3}{4}$..	2,200
Grooved Roofing	2,400
Com. Boards and Fencing 1x4, 6, 8, 10-inch, S. 1 S. or 2 S. to $13/16$	2,500
Com. Boards, 1x12, S. 1 S. or 2 S. to $13/16$	2,600

Com. Boards, 1x12 S. 1 S. or 2 S. to 13/16.....2,800	Com. Boards and Fencing 1x4, 6, 8, 10-inch rough3,300
Com. Boards and Fencing 1x4, 6, 8, or 10-inch, rough3,400	Com. Boards, 1x12, rough.3,400
Com. Boards, 1x12, rough.3,500	2x4, 2x6 and 2x8, S. 1 S. 1 E. to 1½.....2,500
2x4, 2x6 and 2x8, S. 1 S. 1 E. to 1½.....2,700	2x4, 2x6 and 2x8, rough..3,300
2x4, 2x6 and 2x8, rough.3,400	2x10 and 2x12, S. 1 S. 1 E. to 1½.....2,600
2x10 and 2x12, S. 1 S. 1 E. to 1½.....2,800	2x10 and 2x12, rough....3,300
2x10 and 2x12, rough....3,500	

Green

2x14 and 3x12, S. 1 S. 1 E.3,800	2x14 and 3x12, S. 1 S. 1 E.3,500
2x14 and 3x12, rough....4,500	2x14 and 3x12, rough....4,200
4x4 and 6x6, S. 1 S. 1 E..3,800	3x4 and 6x6, S. 1 S. 1 E..3,500
4x4 and 6x6, rough.....4,500	4x4 and 6x8, rough.....4,200
6x8 and over, rough.....4,500	8x8 and over, rough.....4,200
6x8 and over, S. 4 S.....3,800	

Plastering Lath, dry..... 550	Plastering Lath, dry..... 500
Byrkit Lath, dry.....1,800	Byrkit Lath, dry.....1,650

The average weights shown above are based upon test weights taken upon large quantities of each item listed, of the yellow pine lumber manufactured by the subscribers to the Southern Pine Association.

NOTE—The Grading Rules for Southern Yellow Pine Lumber given here are those for 1916. A copy of the new 1917 rules will be sent you, free of cost, upon request.

INDEX TO LUMBER GRADING RULES.

	Page
Barn Siding	426
Base.	425
Bevel Siding	425
Boards, Surfaced	426
Boards, Rough	433
Casing.	425
Ceiling.	422

Dimension, Sized	431
Dimension, Rough	433
Door Jambs	425
Drop Siding	423
Fencing, Surfaced	429
Fencing, Rough	433
Finishing, Dressed	417
Finishing, Rough	432
Flooring.	420
Flooring—Heavy.	436
Flooring, Standard	435
Grain, Defective	414
General Instructions	412
Grooved Roofing	427
Joists—Heavy.	431
Knots.	412
Lath, Byrkit	434
Lath, Plastering	437
Partition.	425
Partition, Standard Working	435
Pickets.	437
Pitch.	413
Miscellaneous.	415
Mouldings.	426
Sap.	414
Shiplap.	426
Standard Sizes	434, 435, 436, 437 and 438
Timbers (See Separate Book of Rules).	
Wagon Bottoms	423
Wane.	414
Window Jambs	425

Standard Specifications *for* Southern Yellow Pine Bridge *and* Trestle Timbers

(To be applied to Single Sticks and not to Composite Members)

For Use in Railway Structures

The use of Southern Yellow Pine for bridge and trestle timbers in railroad work requires high grade pieces of timber both as to strength and lasting power. Recognizing these facts, a special set of standard specifications has been adopted by the Southern Pine Association. The specifications as to the quality of the timber are according to the Standard Specifications adopted and copyrighted by the American Society for Testing Materials defining dense and sound pine.† These terms replace the botanical designation hitherto used, that is, longleaf, shortleaf and loblolly pine. The grade "dense" pine refers to the strongest pieces of what has hitherto been known as longleaf pine.

The specifications as to grades are the Standard Specifications for Southern Yellow Pine bridge and trestle timbers adopted and published in the Manual by the American Railway Engineering Association (reprinted by permission of the American Railway Engineering Association from the Manual, 1916). The only change which has been made in the reprint of the American Railway Engineering Association rules is that "dense" pine has been substituted for longleaf pine and "sound" pine for shortleaf pine.

BRANDED TIMBERS.

Proper service to buyers and users of yellow pine timber demands correct grading, and the branding or marking of each stick of timber showing its grade.

Variation in the individual character of different pieces of timber is responsible for the difference in strength. Structurally, some are much stronger than others.

†Adopted and copyrighted by the American Society for Testing Materials, August, 1915.

Owing to the confusion which frequently results in the proper classifying of timbers into longleaf, shortleaf, loblolly, etc., a new rule has been devised and recently adopted by the American Society for Testing Materials, and known among the trade as the "Density Rule," which classifies all Southern Pine timbers, irrespective of botanical species, into two classes; namely, "Dense Southern Yellow Pine" and "Sound Southern Yellow Pine."

Details and description of these designations will be found in the following pages.

The Southern Pine Association recommends that all timbers be branded. All manufacturers and dealers are invited to brand their timber in accordance with the grades and classifications contained in this book.

SOUTHERN PINE ASSOCIATION.

New Orleans, Louisiana, U. S. A., March 15, 1916.

DEFINITION FOR SOUTHERN YELLOW PINE.

(Adopted and Copyrighted by the American Society for Testing Materials, August, 1915.)

SOUTHERN YELLOW PINE.—This term includes the species of yellow pine growing in the Southern States from Virginia to Texas, that is, the pines hitherto known as longleaf pine (*Pinus palustris*), shortleaf pine (*Pinus echinata*), loblolly pine (*Pinus taeda*), Cuban pine (*Pinus heterophylla*) and pond pine (*Pinus serotina*).

Under this heading two classes of timber are designated: (a) Dense Southern Yellow Pine and (b) sound Southern Yellow Pine. It is understood that these two terms are descriptive of quality rather than of botanical species.

(a) **Dense Southern Yellow Pine** shall show on either end an average of at least six annual rings per inch and at least one-third summer wood, or else the greater number of the rings shall show at least one-third summer wood, all as measured over the third, fourth and fifth inches of a radial line from the pith. Wide-ringed material excluded by this rule will be acceptable, provided that the amount of summer wood as above measured shall be at least one-half.

The contrast in color between summer wood and spring wood shall be sharp and the summer wood shall be dark in color, except in pieces having considerably above the minimum requirement for summer wood.

In cases where timbers do not contain the pith, and it is impossible to locate it with any degree of accuracy, the same inspection shall be made over 3 inches on an approximate radial line beginning at the edge nearest the pith in timbers over 3 inches in thickness and on the second inch (on the piece) nearest to the pith in timbers 3 inches or less in thickness.

In dimension material containing the pith but not a 5-inch radial line, which is less than 2x8 inches in section or less than 8 inches in width, that does not show over 16 square inches on the cross-section, the inspection shall apply to the second inch from the pith. In larger material that does not show a 5-inch radial line the inspection shall apply to the three inches farthest from the pith.

The radial line chosen shall be representative. In case of disagreement between purchaser and seller the average summer wood and number of rings shall be the average of the two radial lines chosen.

(b) **Sound Southern Yellow Pine** shall include pieces of Southern pine without any ring or summer wood requirement.

STANDARD SPECIFICATIONS FOR SOUTHERN YELLOW PINE BRIDGE AND TRESTLE TIMBERS.* †

(To Be Applied to Single Sticks and Not to Composite Members).

General Requirements.

1. Except as noted, all timber shall be sound, sawed to standard size, square cornered and straight; close grained and free from defects such as injurious ring shakes and cross grain,

*Adopted, Vol. 10, Part 1, 1909, pp. 537, 539-541, 598-603; Vol. 11, 1910, Part 1, pp. 176, 180, 181, 228-230. Proc. Am. Ry. Eng. Ass.

†These specifications are reprinted from the Manual of the American Railway Engineering Association with permission. The terms "Longleaf" and "Shortleaf" have been changed to read "Dense" and "Sound," respectively.

unsound or loose knots, knots in groups, decay, or other defects that will materially impair its strength.

Standard Size.

2. "Rough timber sawed to standard size" means that they shall not be over $\frac{1}{4}$ -inch scant from the actual size specified. For instance, a 12x12-inch timber shall measure not less than $11\frac{3}{4}$ x $11\frac{3}{4}$ inches.

Standard Dressing.

3. "Standard Dressing" means that not more than $\frac{1}{4}$ -inch shall be allowed for dressing each surface. For instance, a 12x12-inch timber, after being dressed on four sides, shall measure not less than $11\frac{1}{2}$ x $11\frac{1}{2}$ inches.

STANDARD HEART GRADE, DENSE PINE.

Stringers.

4. Stringers shall show not less than 85 per cent heart on the girth anywhere in the length of the piece; provided, however, that if the maximum amount of sap is shown on either narrow face of the stringer, the average depth of sap shall not exceed one-half inch. Knots greater than $1\frac{1}{2}$ -inch in diameter will not be permitted at any section within 4 inches of the edge of the piece, but knots shall in no case exceed 4 inches in their largest diameter.

Caps and Sills.

5. Caps and sills shall show not less than 85 per cent heart on each of the four sides, measured across the sides anywhere in the length of the piece, and shall be free from knots over $2\frac{1}{2}$ inches in diameter.

Posts.

6. Posts shall show not less than 75 per cent heart on each of the four sides, measured across the sides anywhere in the length of the piece, and shall be free from knots over $2\frac{1}{2}$ inches in diameter.

Longitudinal Struts and Girts.

7. Longitudinal Struts and Girts shall be square cornered and sound. One side shall show all heart; the other side shall show not less than 85 per cent heart, measured across the side anywhere in the length of the piece, and shall be free from any

large knots or other defects that will materially injure their strength.

Longitudinal X Braces, Sash and Sway Braces.

8. Longitudinal X Braces, Sash Braces and Sway Braces shall be square cornered and sound; shall show not less than 80 per cent heart on each of the two sides, and shall be free from any large knots or other defects that will materially injure their strength.

Ties and Guard Rails.

9. Ties and Guard Rails shall show one side all heart; the other side and two edges shall show not less than 75 per cent heart, measured across the surface anywhere in the length of the piece; shall be free from any large knots or other defects that will materially injure their strength, and where surfaced the remaining rough face shall show all heart.

STANDARD GRADE, DENSE AND SOUND YELLOW PINE.

Stringers.

10. Stringers shall be square cornered, with the exception of 1-inch wane on one corner or $\frac{1}{2}$ -inch wane on two corners. Knots shall not exceed in their largest diameter one-fourth of the width of the surface of the stick in which they occur, and shall in no case exceed 4 inches. Ring shakes shall not extend over one-eighth of the length of the piece.

Caps and Sills.

11. Caps and Sills shall be square cornered, with the exception of 1-inch wane on one corner, or $\frac{1}{2}$ -inch wane on two corners. Knots shall not exceed in their largest diameter one-fourth of the width of the surface of the stick in which they occur, and in no case shall exceed 4 inches. Ring shakes shall not extend over one-eighth of the length of the piece.

Posts.

12. Posts shall be square cornered, with the exception of 1-inch wane on one corner, or $\frac{1}{2}$ -inch wane on two corners. Knots shall not exceed, in their largest diameter, one-fourth of the width of the surface of the stick in which they occur, and shall in no case exceed 4 inches. Ring shakes shall not extend over one-eighth of the length of the piece.

EXPLANATORY NOTE FOR STANDARD HEART GRADE.

These specifications state the maximum limit of sapwood which will be accepted. In practice, with good inspection, the effect of these specifications should be to secure timber the bulk of which is practically all heart. In permanent bridge timber, not protected from decay, sapwood is not only useless in itself, but by furnishing a lodgment for the spores of fungi, it is the cause of starting and promoting the continuance of rot in the heart. Sapwood, especially after decay has set in, is also extremely susceptible to fire, while with precautions ordinarily exercised heartwood is practically immune from this source of danger.

On the other hand, for ordinary commercial purposes sapwood is as valuable as heart. Therefore, if the mill owners understand what is wanted, good heart timber can be obtained for a small advance in price over what is usually furnished, much of which contains in bulk 50 per cent or more of sapwood.

To obtain proper results inspection should be made at the mills, where unsatisfactory timber can be rejected without hardship to the mill owner. Extensive buyers of timber should have inspectors stationed at the mills. To cover the needs of smaller buyers and municipalities, it seems that some of the established inspection companies might maintain an organization of timber inspectors at the mills, which would prove profitable to themselves, satisfactory to the mill owners and of incalculable benefit to those who use the timber.

Southern Yellow Pine Car Material Specifications

Recommended Practice of the Master Car Builders' Association, and American Railway Master Mechanics' Association

Adopted and Reprinted by the Southern Pine Association, New Orleans, La.

January, 1, 1916

CLASSIFICATION, GRADING AND DRESSING RULES FOR SOUTHERN YELLOW PINE CAR MATERIAL.

1. Classification, Grading and Dressing Rules for Southern Yellow Pine Car Lumber, adopted as recommended practice by the Master Car Builders and American Railway Master Mechanics' Associations, Atlantic City, June 15-22, 1910; adopted at Chicago, Ill., by the Yellow Pine Manufacturers' Association, July 19 and 20, 1910; and adopted and ordered reprinted by the Grading Committee of the Southern Pine Association, November 23, 1915.

2. **SOUTHERN YELLOW PINE LUMBER** to cover long leaf and short leaf Yellow Pine grown in the Southern States shall be graded and classified according to the following rules and specifications as to quality, and dressed stock shall conform to the subjoined table of standard sizes, except where otherwise expressly stipulated between buyer and seller.

3. Recognized defects in Southern Yellow Pine are knots, knot holes, splits (either from seasoning, ring hearts or rough handling), shake, wane, red heart, pith, rot, rotten streaks, dote, worm holes, pitch streaks, pitch pockets, torn grain, loosened grain, seasoning or kiln checks, sap stains and imperfect manufacture.

KNOTS.

4. Knots shall be classified as pin, standard and large, as to size; and round and spike, as to form; and as sound, loose, encased, pith and unsound, as to quality.

5. A **pin knot** is sound and not over $\frac{1}{2}$ -inch in diameter. (See page 448).

6. A **standard knot** is sound and not over $1\frac{1}{2}$ inches in diameter. (See page 449).
7. A **large knot** is one any size over $1\frac{1}{2}$ inches in diameter. (See page 450).
8. A **round knot** is oval or circular in form.



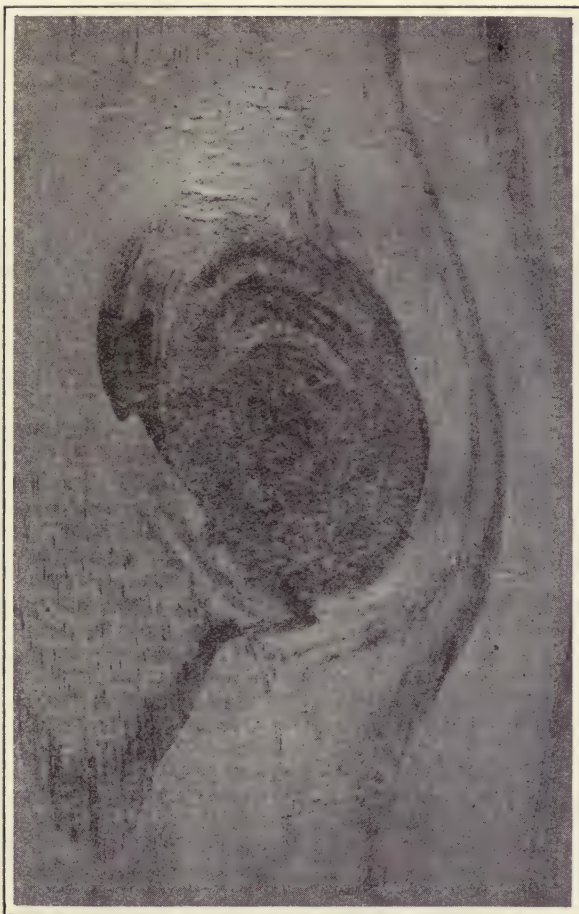
PIN KNOT.

9. A **spike knot** is one sawn in a lengthwise direction. (See page 451).

The mean or average diameter of knots shall be considered in applying and construing these rules.

10. A **sound knot** is one solid across its face, is as hard as the wood it is in, and is so fixed by growth or position that it will retain its place in the piece.

11. A **loose knot** is one not held firmly in place by growth or position. (See page 452).



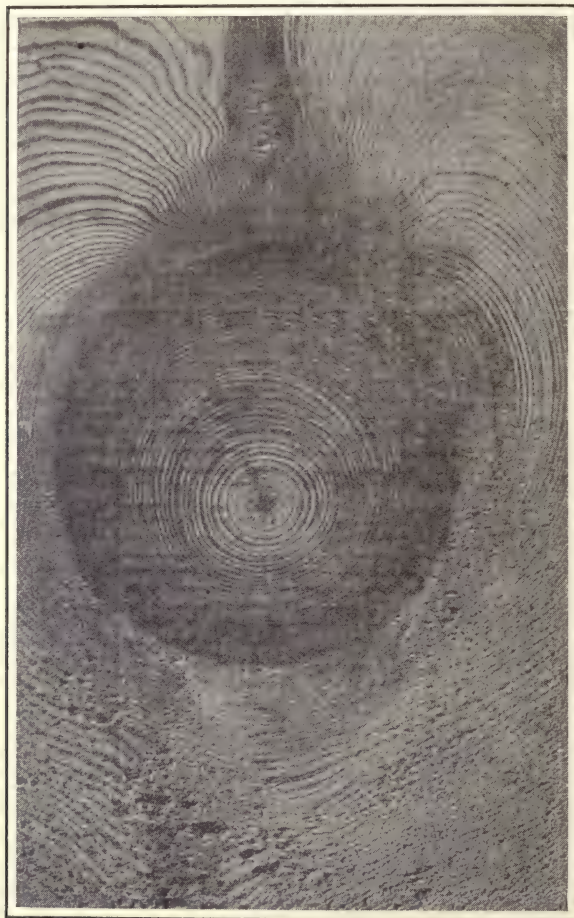
STANDARD KNOT.

12. A **pith knot** is a sound knot with a pith hole not more than $\frac{1}{4}$ -inch in diameter. (See page 453).

13. An **encased knot** is one surrounded wholly or in part by bark or pitch. Where the encasement is less than one-eighth

of an inch in width on both sides, not exceeding one-half the circumference of the knot, it shall be considered a sound knot. (See Secs. 10 and 17). (See page 454).

14. An **unsound knot** is one not as hard as the wood it is in. (See page 455).



LARGE KNOT.

PITCH.

15. Pitch pockets are openings between the grain of the wood containing more or less pitch or bark, and shall be classified as small, standard and large pitch pockets.

16. A **small pitch pocket** is one not over one-eighth of an inch wide.

A **standard pitch pocket** is one not over three-eighths of an inch wide or 3 inches in length.

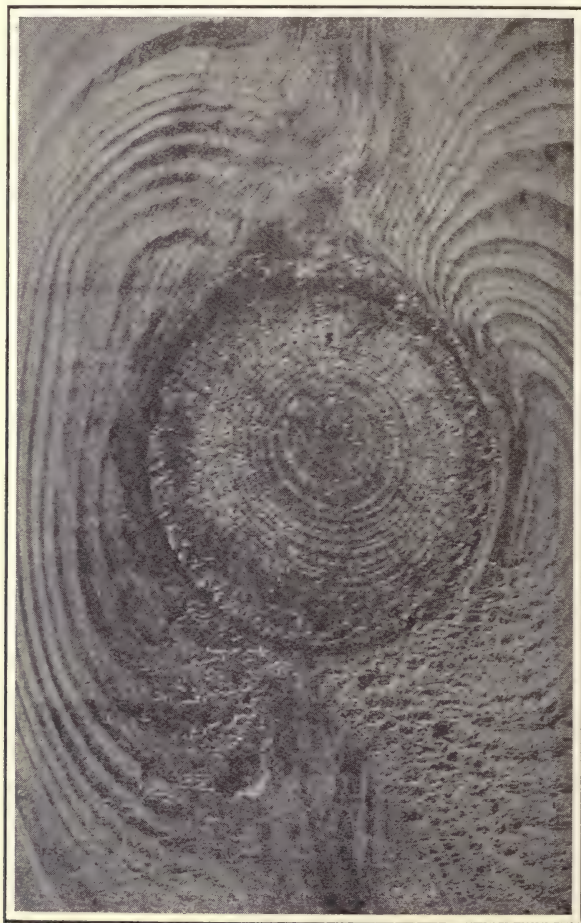


SPIKE KNOT.

A **large pitch pocket** is one over three-eighths of an inch wide, or over 3 inches in length.

17. A pitch pocket showing open on both sides of the piece one-eighth of an inch or more in width shall be considered the same as a knot hole.

18. A **pitch streak** is a well-defined accumulation of pitch at one point in the piece, and when not sufficient to develop a well-defined streak, or where fiber between grains is not saturated with pitch, it shall not be considered a defect. (See page 456).



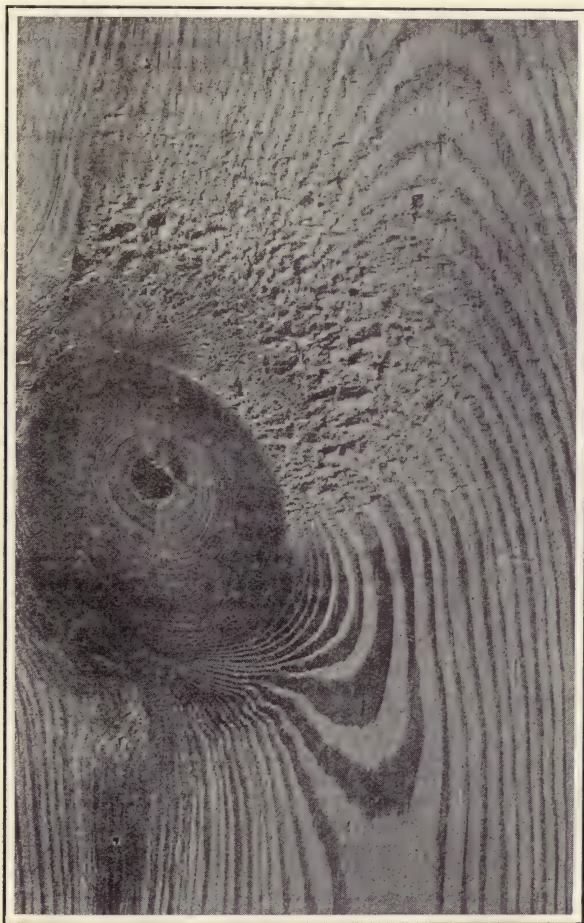
LOOSE KNOT.

19. A **small pitch streak** shall be equivalent to not over one-twelfth the width and one-sixth the length of the piece it is in.

A **standard pitch streak** shall be equivalent to not over one-sixth the width and one-third of the length of the piece it is in.

WANE.

20. **Wane** is bark, or the lack of wood, from any cause, on the edge.



PITH KNOT.

SAP.

21. **Bright Sap** shall not be considered a defect in any of the grades provided for and described in these rules, except where stipulated.

SHAKE.

22. **Shakes** are splits or checks in timbers which usually cause a separation of the wood between annual rings.

Through Shake—A shake which extends between two faces of a timber.



ENCASED KNOT.

Ring Shakes—An opening between the annual rings.

MISCELLANEOUS.

23. Defects in rough stock caused by improper manufacture and drying will reduce grade, unless they can be removed by dressing such stock to standard sizes.

24. All stock except car sills and framing shall be inspected on the face side to determine the grade. In stock surfaced one side, the dressed surface shall be considered the face side. In stock rough or dressed two sides, the best side shall be considered the face, but the reverse side of all such stock shall not be more than one grade lower.



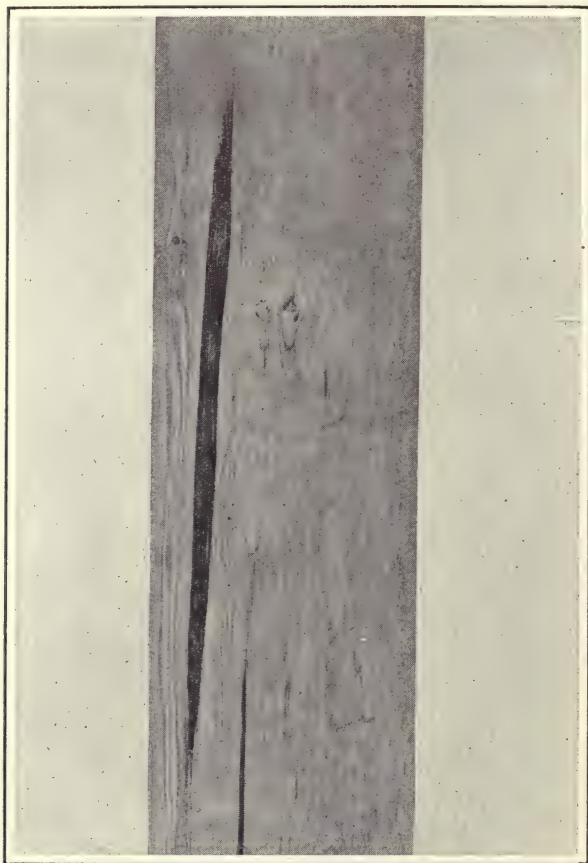
UNSOUND KNOT.

25. Pieces of siding, lining or roofing with $\frac{3}{16}$ -inch or more of tongue will be admitted in any grade, provided it does not run more than one-third the length of the piece.

26. In all grades lower than "B and Better," wane on the reverse side, not exceeding one-third the width and one-sixth

the length of any piece, is admissible, provided the wane does not extend into the tongue, or over one-half the thickness below the groove.

27. **Chipped Grain** consists in a part of the surface being chipped or broken out in small particles below the line of the



PITCH STREAK.

cut, and as usually found shall not be classed as torn grain and shall not be considered a defect.

28. **Torn Grain** consists in a part of the wood being torn out in dressing. It occurs around knots and curly places, and is of four distinct characters—slight, medium, heavy and deep.

Slightly torn grain shall not exceed $\frac{1}{32}$ of an inch in

depth; medium, $\frac{1}{16}$ of an inch; heavy, $\frac{1}{8}$ of an inch; any torn grain heavier than $\frac{1}{8}$ of an inch shall be termed deep.

29. **Loosened Grain** consists in a point of one grain being torn loose from the next grain. It occurs on the heart side of the piece and is a serious defect, especially in flooring.

30. **Rot, Dote and Red Heart**—Any form of decay which may be evident either as a dark-red discoloration not found in the sound wood, or the presence of white or red rotten spots, shall be considered as a defect.

Firm red heart shall not be considered a defect in any of the grades of Common Lumber.

31. The grade of all regular stock shall be determined by the number, character and position of defects visible in any piece. The enumerated defects herein described admissible in any grade are intended to be descriptive of the coarsest pieces such grades may contain, but the average quality of the grade shall be midway between the highest and lowest pieces allowed in the grade.

32. Lumber and timber sawed for specific purposes must be inspected with a view to its adaptability for the use intended.

33. All dressed stock shall be measured strip count, viz.: Full size of rough material necessarily used in its manufacture.

34. "Equivalent" means equal, and in construing and applying these rules the defects, whether specified or not, are understood to be equivalent in damaging effect to those mentioned applying to stock under consideration.

35. Lumber must be accepted on grade in the form in which it is shipped. Any subsequent change in manufacture or mill work will prohibit an inspection for the adjustment of claims, except with the consent of all parties interested.

36. The foregoing general observations shall apply to and govern the application of the following rules:

37. **B AND BETTER CAR SIDING, LINING AND ROOFING** will admit any two of the following, or their equivalent of combined defects: Sap stain not to exceed 5 per cent; firm red heart not to exceed 15 per cent of the face; three pin knots, one standard knot, three small pitch pockets, one standard pitch pocket, one standard pitch streak, slight torn grain, or small kiln or season checks. Where no other defects are contained, six small pin worm holes will be admitted.

38. **SELECT CAR SIDING** will admit of one standard pitch streak, one standard pitch pocket, or their equivalent; and in addition, will admit of not exceeding five pin knots and two standard knots, or their equivalent; 10 per cent sap stain; firm red heart, slight shake, heavy torn grain, defects in manufacture or seasoning checks. Pieces otherwise good enough for "B," but containing a limited number of pin worm holes shall be graded "**Select.**" This grade is intended to be accumulated from running "B and Better" stock, and will consist of all the droppings which do not contain defects in excess of those mentioned in this paragraph.

39. **No. 1 COMMON CAR SIDING** will admit of the following defects or their equivalent: Sound knots, not over one-half of cross-section of the piece at any point throughout its width; three pith knots or their equivalent; wane $\frac{1}{2}$ inch deep on edge not exceeding $1\frac{1}{2}$ inches wide and one-half the length of the piece; torn grain, pitch pockets, pitch, sap stain, seasoning checks, slight shakes, firm red heart and a limited number of small worm holes well scattered. This grade is intended to be worked from Fencing stock, either kiln or air dried.

40. **SELECT CAR LINING AND ROOFING** will admit of one standard pitch streak; one standard pitch pocket, or their equivalent; and, in addition, sound knots not over one-half the width of the piece in the rough; 10 per cent sap stain; firm red heart, slight shakes, heavy torn grain; defects in manufacture or seasoning checks. Pieces otherwise good enough for "B," but containing a limited number of pin worm holes shall be graded "**Select.**" This grade is intended to be accumulated from running "B and Better" stock, and will consist of all the droppings which do not contain defects in excess of those mentioned in this paragraph.

41. **No. 1 COMMON CAR LINING AND ROOFING** will admit of the following defects or their equivalent: Sound knots not over one-half the cross-section of the piece at any point throughout its length; three pith knots or their equivalents, torn grain, pitch pockets, sap stains, seasoning checks, firm red heart, and a limited number of pin or small worm holes well scattered. This grade is intended to be worked from Fencing stock, either kiln or air dried.

42. **STANDARD PATTERNS.** (See pages 469 and 470, showing net sizes after working.)

43. **ALL-HEART CAR DECKING OR FLOORING** will admit sound knots not over one-third of the cross-section of the piece at any point throughout its length, provided they are not in groups; pitch pockets; firm red heart, shake and seasoning checks which do not go through the piece, loose or heavy torn grain, or other machine defects, which will lay without waste or will not cause a leakage in cars when loaded with grain. Must be strictly **all heart** on both sides and both edges.

44. **HEART FACE CAR DECKING OR FLOORING** will admit of sound knots not over one-third the cross-section of the piece at any point throughout its length, provided they are not in groups; pitch pockets, firm red heart, shake and seasoning checks which do not go through the piece, loosened or heavy torn grain, or other machine defects, which will lay without waste, or will not cause a leakage in cars when loaded with grain. Will admit of any amount of sap provided all of the face side of the piece is strictly **ALL HEART**.

45. **No. 1 COMMON CAR DECKING OR FLOORING** will admit of sound knots not over one-half the cross-section of the piece at any point throughout its length, provided they are not in groups; pitch pockets, sap stain, firm red heart, shake and seasoning checks which do not go through the piece, a limited number of pin worm holes, loosened or heavy torn grain, or other machine defects, which will lay without waste, or will not cause a leakage in cars when loaded with grain.

CAR SILLS AND FRAMING.

46. **No. 1 COMMON HEART CAR SILLS AND FRAMING** will admit of sound knots, provided they are not in groups, the mean or average diameter of which shall not exceed 2 inches, pitch, pitch pockets, slight shake, seasoning checks, or other defects which will not impair its strength more than the defects aforementioned. Must be sawed from sound timber, free from dote or rotten red heart, and true to measurements, or at least the measurements at no point on the sill shall be less than the size required.

Measurement of the girth at any point throughout the length of the piece must show at least 75 per cent heartwood.

Cubical contents shall not be used as basis for obtaining percentage of heartwood under this rule.

47. No. 1 COMMON CAR SILLS AND FRAMING will admit of sound knots, provided they are not in groups, the mean or average diameter of which shall not exceed 2 inches, pitch, pitch pockets, slight shake, seasoning checks, sap, sap stain or other defects which will not impair its strength more than the defects aforementioned. Must be sawed true to measurements and from sound timber free from dote or rotten red heart; must be square cornered, except that 1 inch of wane on one corner or $\frac{1}{2}$ inch of wane on two corners is admissible.

48. SIZES up to 6 inches in width shall measure full when green, and not more than $\frac{1}{8}$ -inch scant when dry or part dry. Sizes 6 to 12 inches in width shall measure full when green and not more than $\frac{1}{4}$ -inch scant when dry or part dry. Sizes 12 to 16 inches in width shall measure full when green and not more than $\frac{3}{8}$ -inch scant when dry or part dry. Unless otherwise specified, one-fourth inch shall be allowed for each side which is to be dressed. In pieces 3 by 6 inches and under when ordered in lengths exceeding 30 feet, sound knots shall not exceed one-quarter the width of the face through which they project, and the grains shall not cross sufficiently to impair the strength.

STANDARD LENGTHS.

CAR SIDING—8, 9, 10 and 12 feet or multiples.

CAR LINING—8, 9, 10, 12, 14, 16, 18 and 20 feet or multiples.

CAR ROOFING—5 feet or multiples.

CAR DECKING OR FLOORING—9 and 10 feet or multiples.

All orders shall be shipped in standard lengths unless otherwise specified, but no lengths of either car siding, lining or roofing shall be shipped, except in the lengths specified or multiples thereof. When stock is not desired in multiple lengths, order should so specify.

Southern Yellow Pine Timbers

Including Definition of the "Density Rule"

Authorized Reprint from the Copyrighted Standards of the
American Society for Testing Materials

Approved and Adopted by the Southern Pine Association, New Orleans, La.

March 15, 1916

SOUTHERN YELLOW PINE TIMBER GRADES.

The grades of timbers are as follows:

	Page
Heart Timbers	465
No. 1 Common Timbers	465
Square Edge and Sound Timbers.....	466
Merchantable Timbers	466
Select Structural Material.....	467

PREFACE.

It has been recognized for a good many years by both the manufacturers and consumers of Southern Yellow Pine that a constructive and simple method for classifying various classes of Southern Yellow Pine for structural purposes would find wide application and fill a long required need. The three botanical species of yellow pine, namely, long leaf, short leaf and loblolly, frequently intergrade, so far as their density is concerned, and much misunderstanding has resulted from time to time because of the lack of a practical method for determining whether any particular class of yellow pine was adapted for the purpose intended. Realizing this condition, the Southern Pine Association has actively co-operated with the United States Forest Service and the American Society for Testing Materials for the purpose of finding some such method for distinguishing the various classes of pine for structural purposes. The American Society for Testing Materials made a preliminary suggestion for grading the Southern pines in their report for 1909. The rule proposed was based on the number of rings per inch. This rule was widely used, but was found too indefinite for final adoption.

As a result of careful study of many trees of all species a method has been devised during the past year by the United

States Forest Service, which was adopted by the Southern Pine Association in January, 1915, and which was presented in detail to the American Society for Testing Materials at their annual convention and subsequently adopted by the society as standard in August, 1915.

Based on this new density rule, a new classification for structural yellow pine timbers has been established which eliminates the names "long leaf," "short leaf" and "loblolly" pines. The new rule provided two classes: **Dense Southern Yellow Pine** and **Sound Southern Yellow Pine**. Dense Southern Yellow Pine includes the best pieces of what has hitherto been known as long leaf pine, and excludes the occasional pieces of inferior quality, for structural purposes. It also includes those pieces of short leaf pine, Cuban pine and loblolly pines, which, because of their density and high percentage of summer wood, are equal in strength to long leaf pine, as shown from numerous tests by the United States Forest Service and many other well known authorities.

In the following pages will be found reprinted the designation for Southern Yellow Pine as adopted by the American Society for Testing Materials, August 21, 1915, also the specifications for the various grades of timbers as offered by the manufacturers of Southern Yellow Pine who are subscribers to the

SOUTHERN PINE ASSOCIATION,
New Orleans, Louisiana, U. S. A.

March 15, 1916.

DEFINITION FOR SOUTHERN YELLOW PINE.

(Authorized reprint from the copyrighted Standards of The American Society for Testing Materials, Philadelphia, Pa.)

SOUTHERN YELLOW PINE.—This term includes the species of yellow pine growing in the Southern States from Virginia to Texas, that is, the pines hitherto known as long leaf pine (*Pinus palustris*), short leaf pine (*Pinus echinata*), loblolly pine (*Pinus taeda*), Cuban pine (*Pinus heterophylla*) and pond pine (*Pinus serotina*).

Under this heading two classes of timber are designated: (a) dense Southern Yellow Pine, and (b) sound Southern Yel-

low Pine. It is understood that these two terms are descriptive of quality rather than of botanical species.

(a) **Dense Southern Yellow Pine** shall show on either end an average of at least six annual rings per inch and at least one-third summer wood, or else the greater number of the rings shall show at least one-third summer wood, all as measured over the third, fourth and fifth inches of a radial line from the pith. Wide-ringed material excluded by this rule will be acceptable, provided that the amount of summer wood as above measured shall be at least one-half.

The contrast in color between summer wood and spring wood shall be sharp and the summer wood shall be dark in color, except in pieces having considerably above the minimum requirement for summer wood.

In cases where timbers do not contain the pith, and it is impossible to locate it with any degree of accuracy, the same inspection shall be made over 3 inches on an approximate radial line beginning at the edge nearest the pith in timbers over 3 inches in thickness and on the second inch (on the piece) nearest to the pith in timbers 3 inches or less in thickness.

In dimension material containing the pith but not a 5-inch radial line, which is less than 2x8 inches in section or less than 8 inches in width, that does not show over 16 square inches on the cross-section, the inspection shall apply to the second inch from the pith. In larger material that does not show a 5-inch radial line the inspection shall apply to the three inches farthest from the pith.

The radial line chosen shall be representative. In case of disagreement between purchaser and seller the average summer wood and number of rings shall be the average of the two radial lines chosen.

(b) **Sound Southern Yellow Pine** shall include pieces of Southern pine without any ring or summer wood requirement.

BRANDED TIMBERS

Proper service to buyers and users of Yellow Pine timber demand correct grading, and the branding or marking of each stick of timber showing its grade.

Variation in the individual character of different pieces of timber is responsible for the difference in strength. Structural

ally, some are much stronger than others.

Owing to the confusion which frequently results in the proper classifying of timbers into long leaf, short leaf, lobolly, etc., a new rule has been devised and recently adopted by the American Society for Testing Materials and known among the trade as the "Density Rule" which classifies all Southern Pine timbers, irrespective of botanical species, into two classes; namely "Dense Southern Yellow Pine" and "Sound Southern Yellow Pine."

Details and description of these designations will be found in these pages.

The Southern Pine Association recommends that all timbers be branded. All manufacturers and dealers are urged to brand their timbers in accordance with the grades and classifications contained in this book.

Southern Pine Association.

New Orleans, La., March 15, 1916.

GENERAL TIMBER SPECIFICATIONS

All timber except No. 1 Common must be free from defects such as injurious ring or round shakes, and through shakes that extend to the surface; unsound and loose knots, and knots in groups that will materially impair the strength. Seasoning checks and discolored sap shall not be considered defects in any grade.

KNOTS

(Adopted by the American Society for Testing Materials, August 21, 1915.)

Knots shall be classified as round and spike in form and for quality as sound, encased, loose and unsound.

A **round knot** is one which is oval or circular in form.

A **spike knot** is one sawn in a lengthwise direction; the mean or average width shall be considered in measuring these knots.

A **sound knot** is one which is solid across its face and which is as hard as the wood surrounding it; it may be either red or black, and is so fixed by growth or position that it will retain its place in the piece.

An **encased knot** is one whose growth rings are not intergrown and homogeneous with the growth rings of the piece it

is in. The encasement may be partial or complete; if intergrown partially or so fixed by growth or position that it will retain its place in the piece, it shall be considered a sound knot; if completely intergrown on one face, it is a watertight knot.

A **loose knot** is one not firmly held in place by growth or position.

An **unsound knot** is one not as hard as the wood it is in.

WANE

Wane is bark, or the lack of wood from any cause, on edges of timbers.

SHAKES

Shakes are splits or checks in timbers which usually cause a separation of the wood between annual rings.

Ring shake: An opening between the annual rings.

Through shake: A shake which extends between two faces of a timber.

Shakes not hereinbefore described unless known to have extensive penetration shall not be considered a defect under this classification.

SIZES

All rough timber, except No. 1 Common, must be full size when green. One-quarter inch shall be allowed for each side surfaced.

LENGTHS

Standard lengths are multiples of two feet, eight to twenty feet, inclusive, extra lengths are multiples of two feet, twenty-two feet and longer. When lineal average is specified, standard of lengths shall be multiples of one foot.

GRADES OF TIMBERS.

HEART TIMBERS

All timber specifications, except "Merchantable" specifying heart requirement, shall be considered as a special contract, and shall specify whether the heart requirements refer to cubical contents or surface measurements in each piece.

No. 1 COMMON TIMBERS

May be either Dense or Sound Pine.

Common timbers rough 4 x 4 and larger shall be not more than $\frac{1}{4}$ " scant at any point when green, and be well manufactured and may have $1\frac{1}{2}$ " wane on one corner one-third the length of the piece, or its equivalent on two or more corners; the wane measured on its face.

Timbers 10 x 10 in size may have 2" wane as above; the larger sizes may have wane as above in proportion to sizes.

The diameter of any one knot shall not exceed 2" in 4 x 4 to 6 x 6; $2\frac{1}{2}$ " in 6 x 8 to 8 x 10; 3" in 10 x 10 to 10 x 12; $3\frac{1}{2}$ " in 12 x 12 to 12 x 14; 4" in 14 x 14 to 14 x 16; $4\frac{1}{2}$ " in 16 x 16 to 16 x 18. In sizes not mentioned the diameter of knots admissible will increase or decrease in proportion to the size of the timbers on same basis as above specified.

In determining the size of knots, mean or average diameter shall be taken, or the equivalent of the above in grouped knots at any one point. Shakes one-sixth the length of the piece, small unsound knots and a limited number of pin worm holes, well scattered, are admissible.

SQUARE EDGE AND SOUND TIMBERS

May be either Dense or Sound Pine.

Square edge and sound timbers shall be well manufactured and conform to the General Timber Specifications, admitting sound knots, and shall be free from wane.

MERCHANTABLE TIMBERS

May be either Dense or Sound Pine.

All merchantable timbers shall be well manufactured and conform to the General Timber Specifications.

Sizes under 9" on the largest dimension, shall show two-thirds or more heart surface on one of the wide faces; sizes 9" and over on the largest dimension shall show two-thirds or more heart on both of the wide faces. When sticks are square the face showing the most heart shall govern the inspection on sizes under 9", and the two faces showing the most heart shall govern the inspection when 9" and over. Heart showing the full length, even if not two-thirds of the area as above, shall meet the requirements of this quality.

Wane not exceeding one-eighth of the dimension of the face and one-quarter of the length of the piece on one corner, or the

equivalent on two or more corners on not to exceed ten per cent of the pieces, shall be admitted.

SELECT STRUCTURAL MATERIAL.

(A rule incorporating suggestions by the United States Forest Service.)

REQUIREMENTS FOR DENSITY AND RATE OF GROWTH

1. Shall contain only sound wood and be well manufactured.

2. Shall conform to the definition of Dense Southern Pine as adopted by the American Society for Testing Materials, August 21st, 1915, shown on page 463.

For the purpose of determining whether any given piece meets the requirements for density and rate of growth, the following rule, suggested by the United States Forest Service, shall be applied. It will be sufficient if either end passes the inspection.

(1) Pith Present or Accurately Located

(A) Radial line of 5" present.

(a) Apply inspection over third, fourth and fifth inches.

(B) Radial line of 5" not present.

(a) Apply inspection to the second inch on 2 x 3, 2 x 4, 2 x 6, 3 x 3, 3 x 4, 4 x 4, or any other dimension material that has less than 16 square inches on the cross section.

(b) In the larger material apply inspection to the 3 inches farthest from the pith.

(2) Pith Not Present or Cannot be Accurately Located.

(A) Material over 3" thick apply inspection to three inches nearest the pith.

(B) Dimension material 3" or less in thickness apply inspection to second inch of the piece nearest the pith.

(3) The Radial Line Chosen Shall Show a Representative Number of Annual Rings of Growth and Per Cent of Summer Wood.

Restrictions on Knots in Beams.

3. Shall not have in Volume 1 sound knots greater in diameter than one-fourth the width of the face on which they appear

—maximum knot $1\frac{1}{2}$ ". Shall not have in Volume 2 sound knots greater in diameter than one-half the width of the face on which they appear—maximum knot 3 inches.

The aggregate diameter of all knots within the center half of the length of any face shall not exceed the width of that face.

The diameter of a knot on the narrow or horizontal face of a beam is to be taken as its projection on a line perpendicular to the edge of the timber. On the wide or vertical face, the smallest dimension of a knot is to be taken as its diameter.

Restrictions on Knots in Columns

4. Shall not have sound knots greater in diameter than one-third the least width of the column—maximum knots 4 inches.

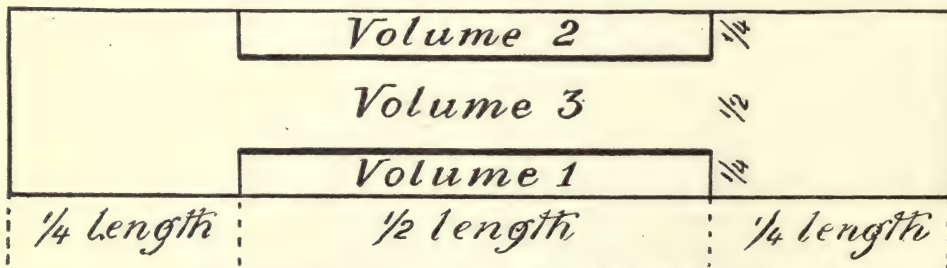
Restrictions on Shakes and Checks In Beams

5. Round or ring shakes shall not occupy, at either end of a timber, more than one-fourth the width of green material, nor more than one-third the width of seasoned material.

Any combination of checks and shakes which would reduce the strength to a greater extent than the allowable round-shakes will not be permitted. Shakes shall not show on the faces of either green or seasoned timber.

Restrictions on Cross Grain in Beams

6. Shall not have diagonal grain with slope greater than one in twenty in Volume 1.



ABBREVIATIONS OF TIMBER GRADES.

For the purpose of branding timbers with the names of the Grades it is recommended that the following abbreviations be used:

SQ EDG-SD—Square Edge and Sound.

NO 1 COM—No. 1 Common

MERCH—Merchantable.

SEL STRUC—Select Structural.

List of Publications

Issued and Distributed by the Southern Pine Association

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Grading Rules (1916 Specifications).
Standard Specifications for Southern Yellow Pine Bridge and
Trestle Timbers.
Classification, Grading and Dressing Rules for Southern Yellow
Pine Car Material.
The Density Rule.
Southern Yellow Pine Timbers, Including Definition of the New
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INDEX

A

	Page
Abnormal Demand for One Item, Dealing with.....	207
Acceptability of Orders at the Mill.....	204
Accounting Methods, Uniform, A Start Toward.....	13
Accounting, Uniform Cost, the Need of.....	188
Accounting Service.....	119
Acre, Yield Per, a Large Factor.....	160
Actual Sizes of Lumber, Users Should Know.....	183
Address of Welcome, G. W. Funck.....	7
Address of Welcome, Response to.....	10
Address of Welcome, Julius Seidel.....	8
Advance Calling Cards, the Value of.....	212
Advance Mill Report, Good News in.....	31
Advance in White Pine Stumpage Values.....	365
Advantages of Painted Shingle Roofs.....	383
Advantages of Small Selling Territory.....	215
Advantages of Technical Training in Lumber Business, S. E. Robinson.....	282
Advertising Activity, The Divisions of.....	328
Advertising Department and Sales Departments Allies.....	327
Advertising, Display, The Use of.....	328
Advertising Help for the Salesman.....	265
Advertising, How It Helps Make Sales.....	254
Advertising, Importance of, to Salesmen.....	333
Advertising Is Service.....	254
Advertising, Sales Promotion Built on.....	385
Advertising, Some Peculiarities of.....	253
Advertisements, The Class of, Used.....	328
Advised to Visit Architects.....	276
After a Fire in Germany.....	322
Aggressiveness, Nothing Beyond the Reach of.....	172
Aggressiveness the Uncommon Thing.....	171
Aid, Government, A Plan to Enlist.....	15
Aid in Research Work, Lumbermen Should.....	242
Alcohol, Ethyl, Possibilities in.....	80
All Vocations Are "In Business".....	129
Amendment, Text of the Proposed.....	15
America, "The Pet of High Heaven".....	147
Ammunition in Association Literature.....	265
An Age of Specialization, This.....	311
An Architect Talks on Co-Operation.....	27
Analysis of Selling, An.....	128
Annual Waste of Yellow Pine, 25 Million Cords.....	233
Answer Questions, Be Ready to.....	375
Appeal to the Public, Facts That.....	71
Appreciating the Business Man.....	149
Approval, Government, of Co-Operative Organizations.....	122
Architect, An, Talks on Co-Operation.....	27
Architects Are Becoming Specialists.....	272
Architects and Builders, Co-Operation With, J. F. Richardson, Jr....	175
Architects and Contractors, Educating.....	46
Architects' Confidence Based on Known Quality.....	181
Architect Has Advance Information.....	179
Architects' Influence Widening.....	175
Architect Left Alone to Solve Lumber Problem.....	269
Architect, Lumber Men Helping the.....	180
Architects, Salesmen Advised to Visit.....	276

	Page
Architect Wants Details of Species.....	271
Architect, Wise, Avoids "Come-Backs".....	175
Architects, Why They "Sidestep" Lumber Salesmen.....	271
Are you Loyal to Your Firm?.....	300
Are You 100 Per Cent Honest?.....	299
Area, An, Choosing for Measurement.....	336
Arguments About Grades, How Are You In.....	296
Arguments Supporting Reasons for Wooden Silos.....	391
Articles, Special, Boosting the Industry.....	332
Association Affairs, How They Are Managed.....	115
Association Asset, The Salesman an.....	263
Association Figures on Sawmill Costs.....	188
Association Grades, Urge Use of.....	316
Association, Help the, With Data.....	77
Association, How Best to Help the.....	264
Association Interests in Brief.....	123
Association Inspection Service.....	116
Association Literature, Ammunition in.....	265
Association Man, Every Yellow Pine Manufacturer <u>Should</u> Be.....	366
Association Methods, The Greatest Good Through.....	366
Association Practices Preparedness.....	195
Association Publications, List of.....	471
Association Publicity as a Lumber Salesman, Address by W. J. Ferry.....	327
Association Publicity Service.....	120
Association Rules Should Be the Standard.....	38
Association Service, The Meaning of.....	267
Association Support Urged by Retailers.....	117
Association, The Southern Pine, Purpose of Organizing.....	12
Association, What It Is Trying to Do.....	354
Association Work Is for All.....	157
Associations, Trade, Promote Efficiency.....	123
Atmosphere Grows Clearer, The.....	271
Attendance, at School of Salesmanship Classified as to Firms Represented.....	403
Attendance, List of.....	394
Attendance, List of, as to Firms Represented.....	403
Attendance, Roll of, at the School of Salesmanship.....	394
Average Cost of Selling Lumber.....	259
Average Timber and the Density Rule.....	101
Awakening, A Recent, Among Manufacturers.....	262

B

Backing Up Salesmen's Promises.....	251
Barrett, D. M., Address by.....	161
Be Confident, But Not Vain.....	300
Be Ready to Answer Questions.....	375
Beebe, W. M., Address, Selling Cost, Direct and Indirect.....	255
Benefit, Work for the Retailer's.....	334
Benzol and Turpentine, Use of.....	380
Best Finishes for Southern Yellow Pine, Address by R. H. Brooks.....	277
Best Utilization of Selling Energies.....	155
Better Grades, Encourage the Use of.....	376
Better If Competitor Could Have Field.....	209
Big Possibilities in Wood Block Interiors.....	383
Bitting, Dr. W. C., Invocation by.....	6
Block Floors, More Wood Used in.....	389
Blocks in Stock, Every Lumber Yard Should Carry.....	388
Blocks, Wood, for Interior Floors, by A. H. Noyes.....	383

	Page
Blocks, Care in Cutting.....	385
Blue Stain Does Not Affect Strength of Wood.....	220
Blue Stain, The Origin of.....	219
Boat Shipping to Wholesalers Stopped.....	362
Booklets and "Follow-Up" Advertising Material.....	329
Booklets on Wood Blocks.....	329
Boost Lath, Shingles and Box Shooks.....	306
Booster, The, Always Welcome.....	307
Botanical Species Not Considered.....	337
Boxes, Wooden, New Specifications for.....	84
Boykin, L. J., Address, Costs from Mill to Car.....	226
Boyle, Gen. L. C., Introducing.....	87
Boyle, Gen. L. C., Address, Public Sentiment and the Lumber Sales- man.....	347
Brand of Excellence, Put on Each Piece.....	321
Branded Lumber Means Honest Lumber.....	179
Branding of Timbers Should Be Insisted Upon by Architects.....	276
Breaks Caused by the Elements.....	274
Breakage, Wood Block Floors Save.....	388
Brick and Wood in Street Pavements.....	323
Brick, Where It Displaces Wood.....	322
Bridge and Trestle Timbers, Southern Yellow Pine, Specifications for.....	441
Brooks, R. H., Address by.....	277
Builders and Architects, Co-Operation with, J. F. Richardson, Jr.....	175
Building, High Cost of, Not Due to Lumber Prices.....	183
Building, Home, Neglected in Country.....	183
Building Material, Lumber the Greatest.....	182
Buildings, Mill-Constructed, Are Flexible.....	338
Buildings, Tall, Losing Favor.....	182
Business, A Wrong Attitude Toward.....	349
Business Essential, Loyalty a.....	61
Business, "Separate," That Becomes "Regular".....	214
Business, Small and Big.....	352
By-Product, Valuable, Neglected.....	189

C

C. Finish, Pitch in.....	103
Calling Cards, The Value of Advance.....	212
Car Siding, Inspecting, A Basis for.....	104
Car Siding, No. 1, Wane on.....	105
Car Siding, Wane on.....	104
Car Shipments, Transit, As to.....	96
Car Material Specifications.....	447
Cars, Transit, One Day's List of.....	97
Care in Cutting Blocks.....	385
Care of Trim Before Use.....	281
Carrying Water on Both Shoulders.....	250
Causes of Decreased Use of Lumber.....	194
Cement, Use of, Will Decline.....	347
Century, Wooden Houses Good for a.....	378
Chance, Slim, for the Manufacturer.....	361
Character, A Man's, Reading by His Dress.....	136
Character Judging, Address by Dr. S. L. Krebs.....	124
Checks, Seasoning, The Meaning of "Small".....	101
Chemicals That Effectually Preserve Wood.....	222
Chemical Treatment, Prevention of Decay by.....	221
Chemical Utilization of Waste.....	237
Choosing an Area for Measurement.....	336

	Page
Claims and Disputes, Address by M. L. Wuescher.....	315
Claims Arising from Selling Errors.....	315
Claims Develop at Three Points.....	315
Claims Developing at the Mill.....	317
Claims Originating After Delivery.....	317
Closer Utilization, Hope for Profits in.....	79
"Come-Backs," The Wise Architect Avoids.....	175
Common Sense in Selling Lumber.....	248
Company's Time, Wasting.....	258
Comparative Life of Woods.....	94
Comparative Strength of Fir and Yellow Pine.....	90
Competitor, in Price, Yellow Pine Has No.....	368
Competitive Conditions, Past and Present.....	170
Competitive Materials, High Prices of, Help.....	195
Competitive Materials, Possibilities In a Knowledge of.....	54
Competitive Woods, A Low Score on.....	53
Competitive Woods, How About?.....	294
Competition, Destructive, Evil of.....	308
Competition, Ill-Advised Efforts to Meet.....	191
Competition of Substitutes Forced a Change.....	291
Competition, Outwitting, in Railway Service.....	351
Competition, Wood in, with Substitutes.....	93, 322
Complaints, Varying, with Praise.....	310
Color in Summer and Spring Wood.....	336
Concrete as a Rival of Wood.....	325
Concrete or Mill-Construction?.....	274
Concrete, The Grades of Lumber Affected by.....	325
Conditions, Market, Prices, etc.....	57
Conditions, Salesman Knows Best.....	42
Conditions That Promote Development of Fungi.....	74
Conditions, Trade, Times Change in.....	17
Confidence, Architect's, Based on Known Quality.....	181
Confidence, Earnestness Compels.....	377
Confidence in Self and Your Goods.....	61
Confidence the Salesman's First Asset.....	248
Congenial Companions Other Than Customers.....	258
Construction Known as "Ordinary".....	275
Construction, Standard, Kidder on.....	178
Construction, Standard Mill, Address by R. S. Lindstrum.....	269
Consulting Expert, the Salesman as.....	179
Consumer, Helping the, to Choose.....	153
Consumer, Reaching the, Address by Hugh McVey.....	253
Consumers More Particular in the East.....	368
Contractor, The, Figures for Profit.....	270
Contractors and Architects, Educating.....	46
Contractor's, The, Finances Limited.....	270
Contrasting the Past with the Future.....	358
Control, Self, a Factor of Efficiency.....	299
Convention, Proceedings of.....	6
Convention, Program of.....	3
Co-Operate, How Salesmen Can, with the Association, Address by Ben S. Woodhead.....	262
Co-Operative Organizations, Government Approval of.....	122
Co-Operation, An Architect Talks on.....	27
Co-Operation from the General Office, Address by W. L. Henry.....	247
Co-Operation from the Sawmill, Address by C. E. Martin.....	243
Co-Operation in Extending Uses of Wood.....	84
Co-Operation, Little from Lumbermen.....	384
Co-Operation the Keynote.....	86
Co-Operation, Which Means Team Work.....	66

	Page
Co-Operation Means Team Work.....	303
Co-Operation with Distributors and Consumers, Address by M. B. Nelson.....	150
Co-Operation with Architects and Builders, Address by J. F. Richardson, Jr.....	175
Correspondence, Keeping Salesmen Posted on.....	248
Cost Accounting, Need of Uniform.....	188
Cost and Method of Manufacture.....	55
Cost, Average, of Selling Lumber.....	259
Cost from Dollies to Car.....	229
Cost, High, of Building Not Due to Lumber Prices.....	183
Cost, High and Low Selling.....	260
Cost Keeping Systems, Study of.....	86
Cost Keeping Systems, Unit, Lacking.....	241
Cost of Creosoting Lumber.....	91
Cost of Production from Pond to Sorting Chain, Address by C. J. Mansfield.....	186
Cost of Selling, Relation of Cost of Production to.....	261
Cost of Soda Dip Increased.....	227
Cost of Production Closely Watched.....	186
Cost of Substitutes, Relative Value of.....	295
Cost, Selling, Direct and Indirect, Address by W. M. Beebe.....	255
Cost, Selling, The Salesman Can Regulate the.....	260
Costs, from Mill to Car, Address by L. J. Boykin.....	226
Costs, Mill, Factors in.....	187
Costs, Sawmill, Association Figures on.....	188
Costs, Sawmill, Address by C. J. Mansfield.....	186
Costs, Stumpage and Logging, Address by Frank Schopflin.....	158
Costs, The Items of Logging.....	159
Cotton, Wood a Substitute for.....	83
Courtesy the Greatest Selling Essential.....	377
Courtesy, The Value of.....	59
Courtesy, The Importance of.....	298
Cover Territory, How Best To, Address by J. H. Heyl.....	212
Credit, Wide Latitude in Extending.....	368
Credit, Withholding, from Salesmen.....	249
Creosoting Lumber, Cost of.....	91
Creosoted Lumber Less Liable to Shrink.....	90
Creosoted, Sap Lumber Good When.....	76
Creosoted Silos Do Not Injure Feed.....	88
Creosoted Wood Blocks for Interior Service, Address by A. H. Noyes.....	383
Criticism That May Be Helpful.....	211
Criticisms, Prepare to Meet.....	30
Crooked Lumber, Grading.....	101
Cupped B and Better Finish.....	105
Current Statistical Service, Helpful.....	118
Customer, Don't Hurry Too Much.....	214
Customer, How the Salesman Can Aid His.....	58
Customer, Meeting on a Social Basis.....	344
Customer, The, Problem of.....	133
Customer, The, Take the Pace of.....	141
Customer's Confidence, Helping Sustain.....	252
Cut off the Non-Growing Worker.....	166
Cuts, Advertising, Used for 400 Retailers.....	331
Cutting Blocks, Care in.....	385
Cutting Down Efficiency Factors.....	343
Cutting Ends Rot in Living Tree.....	218
Cutting Out the Traveling Salesman.....	393
Cutting, Price, Unnecessary.....	308

D

	Page
Data, Help the Association with.....	77
Dead Load, The, in a Building.....	274
Dealer, When Mill and, Disagreed.....	106
Dealer, The, as a User of Wood.....	185
Dealers, A Majority of, Against Transit Shipments.....	97
Dealers and Salesmen Must Be Educators.....	182
Dealers Carry Too Many Side Lines.....	184
Dealers, Lumber, Don't Know Species.....	177
Dealing with an Abnormal Demand for One Item.....	207
Dealing with the Intellectual Type.....	142
Decay Spreads from Sap Wood to Heart Wood.....	220
Decay of Yellow Pine Lumber, by Dr. H. von Schrenk.....	218
Decreased Use of Lumber, Causes of.....	194
Delivery, Following Up the Sale to.....	272
Demand, Public, Salesmen Should Watch Trend of.....	204
Demand, When the Supply Catches the.....	366
Demands, The, of Modern Competition.....	371
Denied the Use of Remedies.....	14
Density, Determining the Factor of.....	336
Density Rule Answers Questions.....	72
Density Rule, Average Timber and the.....	101
Density Rule, Douglas Fir to Have.....	91
Density Rule Measures Strength.....	73
Density Rule Measures Strength Only.....	339
Density Rule, The, Address by J. E. Jones.....	334
Density Rule, The, Definition of.....	461
"Density Rule," The, and Southern Yellow Pine Timbers.....	461
Destructive Competition, Evil of.....	308
Details of Species, Architect Wants.....	271
Determining the Factor of Density.....	336
Development of Fungi, Conditions That Promote.....	74
Difference in Value, Partition and Flooring.....	100
Difficult to Fix a Fair Average.....	260
Difficulties in Kiln Drying Longleaf.....	227
Difficulties, Selling, of Today.....	369
Dimension, Long Leaf and Short Leaf.....	93
Direct and Indirect Selling Costs, by W. M. Beebe.....	255
Discussion, General, Begins.....	95
Discussion of Questions Asked.....	33
Diseases That Attack Trees and Lumber.....	73
Display Advertising, The Use of.....	328
Disposing of Odds and Ends.....	208
Disposing of Short Lengths.....	45
Disputes and Claims, by M. L. Wuescher.....	315
Distributors and Consumers, Co-Operation with, by M. B. Nelson.....	150
Distribution, Is the Saleman's Work.....	128
Divisions of Advertising Activity.....	328
Do Salesmen "Play Favorites"?.....	37
Do You Know the Density Rule?.....	196
Do You Know Value and Cost of Substitutes?.....	295
Dollies to Car, Cost from.....	229
Don't Hurry the Customer Too Much.....	214
Don't Expect Immediate Results from School.....	113
Don't Try to Win Through "Pull".....	276
Doing Business by Telephone.....	307
Douglas Fir and Yellow Pine.....	275
Douglas Fir and Longleaf Pine on Equal Basis.....	92
Douglas Fir to Have Density Rule.....	91
Dress, Reading a Man's Character by His.....	136

	Page
Drinking Is Becoming Unfashionable.....	344
"Drummer," The, Still a Power.....	393
Duty of the Lumber Salesman.....	194

E

Each Industrial Plant a Separate Problem.....	313
Early Day Lumbering, Hardships of.....	361
Early Morning Sales at Auction.....	360
Earnestness Compels Confidence.....	377
Economical Selling Means Increased Profits.....	303
Economy of the Wooden Silo.....	392
Economy and Profits.	64
Eddy, J. H., Address, The Yellow Pine Shingle.....	189
Educating Architects and Contractors.....	46
Educating Ourselves, The Task of.....	12
Efficient, No Man 100 Per Cent.....	292
Efficiency, A Higher Appreciation of.....	355
Efficiency, Address by R. J. Tolson.....	286
Efficiency, Examination in.	50
Efficiency Factors, Cutting Down.....	343
Efficiency, Factors of, in Lumber Manufacture.....	320
Efficiency, Higher, A Need.....	311
Efficiency in Price Quoting.....	296
Efficiency, Self-Control a Factor of.....	299
Efficiency Test, Mr. Woodhead Submits to.....	50
Efficiency, The Meaning of Perfect.....	291
Efficiency, Trade Associations Promote.....	123
Employers' Interests, Salesmen Should Guard.....	318
Empty Promises of Prompt Delivery.....	277
Enamel Finish for Yellow Pine.....	279
Enamel for Yellow Pine.....	381
Encourage the Use of Better Grades.....	376
Endurance of Power in Commercial Greatness.....	148
Engineering Service.	121
England Ahead of Us in Treating Lumber.....	76
Enhanced Stumpage Values, Expects.....	357
Entertaining, The Item of.....	258
Entitled to Farmers' Help.....	350
Erroneous Idea, An, Some Dealers Have.....	37
Ethyl Alcohol, Possibilities in.....	80
Europe, Promotion Work in.....	121
Every Manufacturer Should Be Association Man.....	366
Evils of Careless Merchandising.....	178
Examination in Efficiency.	50
Example, An, of Good Salesmanship.....	351
Excess Stock, Helping Get Rid of.....	180
Exercise for Health and Economy.....	257
Experts Should Supervise Treatment.....	223
Exploiting Southern Yellow Pine, Address by W. H. Sullivan.....	305
Expected a Congress of "Home Talent".....	356
Expects Enhanced Stumpage Values.....	357
Expression, Not Physiognomy, Counts.....	135
Extending Credit, Wide Latitude in.....	368
Extending the Uses of Wood, Co-Operation in.....	84
Exteriors, Yellow Pine, Painting.....	379

F

Facial Analysis, No Time for.....	134
-----------------------------------	-----

	Page
Fact, A, That Legislators Forget.....	322
Factor of Density, Determining the.....	336
Factors, Efficiency, Cutting Down.....	343
Factors in Mill Costs.....	187
Factors of Efficiency in Lumber Manufacture.....	320
Factory and Industrial Trade, Selling, by C. W. Myers.....	310
Factory Needs, Mills Fail to Provide for.....	312
Factory Uses of Lumber, Salesmen Should Study.....	85
Factory Uses of Wood, Learn.....	238
Facts That Appeal to the Public.....	71
Facts That Can Be Reproduced.....	126
Facts for Shingle Users.....	193
Faculty, The, of Judging Human Nature.....	303
Failures, Study, as Well as Successes.....	126
Fair Average, Difficult to Fix a.....	260
Famine, A, in High-Priced Salesmen.....	173
Farmers' Help, Entitled to.....	350
Faults of Sales Organizations.....	150
Faults of Other Silos.....	392
Favor, Tall Buildings Losing.....	182
Feed, Creosoted Silos Do Not Injure.....	88
Fencing, Grading No. 3.....	108
Fencing, No. 2, and No. 2 Flooring Graded the Same.....	109
Ferry, W. J., Address, Association Publicity as a Lumber Salesman.....	327
Fibre Board in the Box Industry.....	326
Field, The, Better if the Competitor Could Have.....	209
Figures, Association, on Sawmill Costs.....	188
Finding Markets in Unexpected Places.....	215
Finances, The Contractors' Limited.....	270
Finish, C, Pitch in.....	103
Finish, Cupped B and Better.....	105
Finish, Enamel, for Yellow Pine.....	279
Finish, Interior, Mr. Brooks on.....	25
Finished Lumber, Tree Rot That Shows In.....	218
Finishes, Best, for Southern Yellow Pine, by R. H. Brooks.....	277
Finishes, Methods of Rubbing.....	281
Finishing Floors of Yellow Pine.....	382
Finishing, Painting and, Southern Yellow Pine, Address by H. A. Gardner.....	378
Finishing Specifications, A Varnish Maker's.....	280
Finishing Yellow Pine, A Technical Work on.....	330
Fir and Yellow Pine, Comparative Strength of.....	90
Fir, Douglas, to Have Density Rule.....	91
Fire Hazard Argument, Meeting the.....	184
Fire Hazard, The, Shingles and.....	191
Fire in Germany, After a.....	322
Fire-Resistant Shingle Paints.....	383
Fire, Steel and Wood in.....	324
Firm, Are You Loyal to Your.....	300
Firms Represented at Salesmen's Convention.....	403
"First Class Lumberman," A, Defined.....	289
First Impressions, Effect of.....	217
First Wood, Then Steel, Then Back to Wood.....	323
Five Elements, The, of a Sale.....	129
Fixed Charges, The Question of Proper.....	14
Flexible, Mill-Constructed Buildings Are.....	338
Floors, Building, "Live" Loads on.....	273
Floors, Interior, Wood Blocks for, by A. H. Noyes.....	383
Floors of Yellow Pine, Finishing.....	382
Floors, Wood Block, Points of Superiority of.....	387

	Page
Floors, Block, More Wood Used in.....	389
Floors, Wood Block, Save Breakage.	388
Flooring and Partition, Difference in Value of.....	100
Flooring, Mis-Matched.	102
Flooring, Mis-Matched, A Use for.....	103
Flooring, No. 2, and No. 2 Fencing Graded the Same.....	109
Flooring, Why It Is Standard Matched.....	99
Following Through an Order for Wood Blocks.....	384
Following Up the Sale to Delivery.....	272
"Follow-Up" Material and Booklets.....	329
Forest Service Expert Talks on Mill Waste.....	78
Forest Service Experts, How They Work.....	81
Forest Service Sought Simpler Rules.....	335
Forestry, What a Course In, Is.....	283
Four Hundred Retailers Used Cuts.....	331
Foundation for an Order, Laying the.....	386
Funck, George W., Address of Welcome by.....	7
Fungi, Conditions That Promote Development of.....	74
Fungi That Attack Lumber.....	219
Future Work, Architect Has Information on.....	179

G

Gained \$30 a Thousand on a Special Order.....	372
Gardner, H. A., Address, Painting and Finishing Yellow Pine.....	378
General Office, Co-Operation from, by W. L. Henry.....	247
General Discussion Begins.....	95
Germany, After a Fire in.....	322
Getting a Line on "Prospects".....	386
Getting a Profit, The Problem of.....	14
Getting the Salesman's Value.....	130
Getting Together, The Habit of.....	161
Gin, Prefers Learning to.....	111
Good Salesmanship, An Example of.....	351
Good Salesmanship Not All in Selling Quantity.....	374
Good Salesmanship, Thorough Knowledge Essential to.....	196
"Good Grade" Notation Unnecessary.....	35
Good Health, The Importance of.....	294
Good News in an Advance Mill Report.....	31
Good Salesmen Should Be Good Lumbermen.....	289
"Good Stock," Meaning of.....	34
Good Stock in Wood Blocks.....	384
Goods, Confidence in Self and Your.....	61
Goods, The, the Essential Thing in Salesmanship.....	132
Government Aid, Plan to Enlist.....	15
Government Approval of Co-Operative Organizations.....	122
Government Wood-Waste Exchange, A.....	239
Government's Wood-Working Exchange, The.....	86
Grade Standards, The Birth of.....	363
Grade Close to Established Rules.....	321
Grade, The Right, in the Right Place.....	198
Grades, Association, Urge Use of.....	316
Grades, Better, Encourage the Use of.....	376
Grades, How Are You in Arguments About.....	296
Grades, Off, The Handling of.....	-231
Grades of Lumber, The, Affected by Concrete.....	325
Grades, Standard, The Origin of.....	334
Grades, Why Salesmen Must Know, by W. J. Haynen.....	194
Grading Orders, Volume Not a Factor in.....	205
Grading Rules for Southern Yellow Pine Lumber.....	412

	Page
Grading Crooked Lumber.....	101
Grading No. 3 Fencing.	108
Grading Rules, Knowledge of.....	56
Grading Rules, Yard Stock, by J. W. Martin.....	319
Grading, Yard Stock, by the Manufacturers.....	320
Grading No. 2 Center Matched.	107
Greater Profits and a Pleased Customer.....	372
Greatest Good, The, Through Association Methods.....	366
Greatest Building Material, Lumber the.....	182
Grooved Roofing Worth More Than Shiplap.....	100
Growth, Salesmanship the Act of.....	163
Growth, Business, Why It Stops.....	164
Growth, Producers of, Should Share in.....	165
Guesswork, The Rule Eliminates.....	338

H

Habit, The, of Getting Together.....	161
Handling, Too Much, in Lumber Manufacture.....	85
Handling Yellow Pine Made Difficult.....	365
Handling, The, of Off Grades.....	231
Handling the "Will" Type.....	144
Hardships of Early-Day Lumbering.....	361
Haynen, W. J., Address, Why Salesmen Must Know Grades.....	194
Health, Good, The Importance of.....	294
Health and Economy, Exercise for.....	257
Health the First on the List.....	51
Heart Pine Shingle, The Life of.....	88
Heart Wood, Decay Spreads from Sapwood to.....	220
"Heart" Man, How to Know the.....	143
"Heart" Type, Using Head Arguments with the.....	144
Help the Association with Data.....	77
Helping Sustain the Customer's Confidence.....	252
Helping the Consumer to Choose.....	153
Helping Get Rid of Excess Stock.....	180
Helpful Current Statistical Service.....	118
Henry, W. L., Address, Co-Operation from the General Office.....	247
Heyl, J. H., Address, How Best to Cover the Territory.....	212
High and Low Selling Cost.....	260
High Prices for Short Lengths.....	372
High Prices of Competitive Materials Help.....	195
Higher Efficiency a Need.....	311
High-Priced Salesmen, A Famine in.....	173
"High Cost of Building" Not Due to Lumber Prices.....	183
Hines, Edward, Address, Lumber Salesmanship.....	356
Hit-or-Miss Methods of Marketing.....	360
Home Building Neglected in the Country.....	183
Honest, Are You 100 Per Cent?.....	299
Honest Lumber, A Plea for.....	176
Honest Lumber Means Branded Lumber.....	179
Honesty and Truthfulness.....	59
Hope in the Southern Pine Association.....	353
Hope, The, for Profit in Closer Utilization.....	79
Hotel Bills, Saving on.....	257
Houses, Wooden, Good for a Century.....	378
How About Competitive Woods?.....	294
How Advertising Helps Make Sales.....	254
How Are You in Arguments About Grades?.....	296
How Association Affairs Are Managed.....	115
How Best to Cover the Territory, by J. H. Heyl.....	212

	Page
How Best to Help the Association.....	264
How Do You Rank as a Retailer?.....	297
How Forest Service Experts Work.....	81
How One-Size Orders May Cause Trouble.....	206
How Salesmen Can Co-Operate with Association by Ben S. Woodhead.....	262
How the Lumber Industry Differs from Others.....	203
How the Salesman Can Aid His Customer.....	58
How the Salesman Can Help.....	177
How the Salesman Can Help in Waste Utilization.....	238
How to Know the "Heart" Man.....	143
How to Offset Inroads of Substitutes.....	327
How to Use Preserved Wood.....	225
Human Nature, The Faculty of Judging.....	303
Hundreds of Friendly Notices Used.....	333
Hurried, The Slow Man Resents Being.....	141

I

Identifying Species "By the Feel".....	24
Identifying Variety in Lumber.....	23
Ignorant Salesmen Not Welcome Callers.....	181
Ill-Advised Efforts to Meet Competition.....	191
"Immediate," "Prompt" and "Rush" Shipments.....	39
Importance of Shipping Clerks.....	246
Importance, The, of Advertising to Salesmen.....	333
Importance, The, of Courtesy.....	298
Importance, The, of Good Health.....	294
Importance, The, of Traveling Salesmen.....	255
Importance, The, of Writing Orders Correctly.....	210
Importance, The, of Personal Neatness.....	62
Important to Salesmen of Wood.....	202
"Impossibilities" the Successful Man's Goal.....	174
Improved Wood-Working Machines Needed.....	240
Increased Profits in Economical Selling.....	303
Increased Sales, Salesmen's Ability to Specialize, Means.....	273
Index to Lumber Grading Rules.....	439, 440
Industry Dependent on Sales Department.....	306
Industry, The, Salesmen Are the Eyes of.....	309
Industry, Special Articles Boosting.....	332
Industrial Plant, Each, a Separate Problem.....	313
Industrial Trade Demands Close Study.....	312
Inevitable Variations in Low-Grade Stock.....	36
Infant "Efficiency," The, Appears.....	291
Influence, The Architect's, Widening.....	175
Information, Advance, The Architect Has.....	179
Information for Your Office.....	374
Information That Salesmen Should Have.....	244
Information the Mills Should Have.....	318
Initiative and Originality.....	64
"Initiative" Means Developing Your Job.....	302
Inroads of Substitutes, How to Offset.....	327
Inspecting Car Siding, A Basis for.....	104
Inspection Service, Association.....	116
Inspectors Handle Stock as They Find It.....	100
Instruction Helps Sell Lumber.....	283
Instructions, Salesman's, May Cause Trouble, When.....	39
Insurance, Low Rates, on Mill-Construction Buildings.....	274
Institution, The Salesman an.....	393
Intellectual Type, Dealing with.....	142

	Page
Intent, The, of Association Rules.....	110
Interests, Association, in Brief.....	123
Interests, Employers', Salesmen Should Guard.....	318
Interior Finish, Mr. Brooks on.....	277
Interior Trim, Short Leaf for.....	278
Interiors, Wood Block, Big Possibilities in.....	383
Interiors, Yellow Pine, Painting.....	380
Interpret Emphasis, Learning to.....	139
Investigation Would Astonish Manufacturers.....	240
Invitation, An, to Ask Questions.....	19
Invocation at Opening of Convention, Dr. W. C. Bitting.....	6
Item, Dealing With an Abnormal Demand for One.....	207
Item, The, of Entertaining.....	258
Items of Trucking, Loading, etc.....	226
Items, The, of Selling Expense.....	256
Items, The, of Logging Costs.....	159

J

Job, "Initiative" Means Developing Your.....	302
Jones, J. E., Address, The Density Rule.....	334
Judging, Character, as a Business Asset, Dr. S. L. Krebs.....	124
Judging Human Nature, The Faculty of.....	303
Judging Lumber, Varied Standards in.....	319
Judging the Order, Address, F. R. Watkins.....	203
Judgment and Tact.....	63, 301

K

Keep in Close Touch with the Mills.....	197
Keep Posted on Mill Stocks.....	208
Keeping Salesmen Posted on Correspondence.....	248
Keith, Charles S., Address, Organization Means Efficiency.....	11
Keith, President, Introducing.....	11
Kendall, H. T., Address, Purpose of Meeting.....	10
Kidder on "Standard Mill-Construction".....	178
Kiln-Drying Long Leaf, Difficulties in.....	227
Knowing Your Product, The Value of.....	70
Knowledge of Competitive Materials, Possibilities in.....	54
Knowledge of Grading Rules.....	56
Knowledge of Substitutes.....	53
Knowledge, Practical Use of Technical.....	284
Knowledge Required, The Technical.....	371
Knowledge, Superior, Means Personal Profit.....	268
Knowledge, Thorough, Essential to Good Salesmanship.....	196
Known Quality, Architects' Confidence Based on.....	181
Krebs, Dr. S. L., Address, Character Judging.....	124

L

Lack of Support for the Salesman.....	342
Landing an Order After Three Tries.....	343
Lath, No. 1 Pine, Pitch in.....	110
Lath, Shingles and Box Shooks, Boost.....	306
Latitude, Wide, in Extending Credit.....	368
Laying the Foundation for an Order.....	386
Leader, A, in Selling Short Lengths.....	346
Learn Factory Uses of Wood.....	238
Learn to Know Our Product.....	151
Learning to Interpret Emphasis.....	139

	Page
Lecture, A, on Painting Yellow Pine.....	25
Length of Life of Woods, Comparative.....	94
Lengths, Orders for Varied, Appreciated at Mill.....	245
Lengths, Ten to Twenty-Foot, What the Term Implies.....	41
Lesson, The, in Persia's Fall.....	147
Letting Salesmen Answer Price Inquiries.....	251
Lightness Combined with Strength.....	200
Life of a Heart-Pine Shingle, The.....	88
Limitations in the Use of Shingles.....	30
Limitations, Some, of Wood.....	201
Lindstrum, R. S., Address, Standard Mill Construction.....	269
Linoleum and Rugs from Wood Fibre.....	83
List of Publications Issued and Distributed by the Southern Pine Association.....	471
List of Transit Cars, One Day's.....	97
Literature, Ammunition in Association.....	265
Little Co-Operation from Lumbermen.....	384
Little Malice in Printed Attacks.....	332
"Live" Loads on Building Floors.....	273
Load, The "Dead," in a Building.....	274
Loading, Trucking, etc., Items of.....	226
Loads, "Live," on Building Floors.....	273
Logging Costs, Stumpage and, by Frank Schopflin.....	158
Logging Costs and Stumpage.....	27
Logging Costs, The Items of.....	159
Logs, Small, Expensive to Handle.....	187
Long Leaf, Difficulties in Kiln Drying.....	227
Long Leaf Pine and Douglas Fir on Equal Basis.....	92
Long Leaf and Short Leaf Dimension.....	93
"Long Leaf" and "Short Leaf" Confusing.....	335
Loss, The, in Lumber Manufacture.....	78
Low-Grade Stock, Inevitable Variations in.....	36
Low Rates of Insurance on Mill-Constructed Buildings.....	274
Low Score, A, on Competitive Woods.....	53
Loyal, Are You, to Your Firm.....	300
Loyalty a Business Essential.....	61
Lumber, A Poor Way to Sell.....	217
Lumber and Trees, Diseases That Attack.....	73
Lumber Assembled, Without Regard to Sizes.....	359
Lumber, Average Cost of Selling.....	259
Lumber, Branded, Means Honest Lumber.....	179
Lumber Business, Technical Training in.....	26
Lumber Business, The, No Secrets in.....	18
Lumber, Causes of Decreased Use of.....	194
Lumber Centers, Famous, of Other Years.....	359
Lumber, Common Sense in Selling.....	248
Lumber, Cost of Creosoting.....	91
Lumber, Creosoted, Less Liable to Shrink.....	90
Lumber, Crooked, Grading.....	101
Lumber Dealers Carry Too Many Side Lines.....	184
Lumber Dealers Don't Know Species.....	177
Lumber, Decay of Yellow Pine, by Dr. H. von Schrenk.....	218
Lumber, Factory Uses of, Salesmen Should Study.....	85
Lumber, Fungi That Attack.....	219
Lumber, Grades of, Affected by Concrete.....	325
Lumber, Identifying Variety in.....	23
Lumber Industry, A Step Toward Stabilizing the.....	17
Lumber Industry, How It Differs from Others.....	203
Lumber Industry, The, Asleep at the Switch.....	358
Lumber, Instruction Helps Sell.....	283

	Page
Lumber Manufacture, Factors of Efficiency in.....	320
Lumber Manufacture, The Loss in.....	78
Lumber Manufacture, Too Much Handling in.....	85
Lumber Men Helping the Architect.....	180
Lumber, No Book Tells the Story of.....	132
Lumber Prices, "High Cost of Building," Not Due to.....	183
Lumber Prices, Stability in Northern.....	364
Lumber Problem, Architect Left Alone to Solve.....	269
Lumber Salesman, Duty of.....	194
Lumber Salesman, Possibilities for the.....	341
Lumber Salesmen Should Know Their Product.....	202
Lumber Salesman, The, and His Possibilities, by Capt. J. B. White..	340
Lumber Salesmen, Why Architects "Sidestep".....	271
Lumber Salesmanship, Address by Edward Hines.....	356
Lumber, Sap, Good When Creosoted.....	76
Lumber, Silo Building Increases Other Uses of.....	389
Lumber, Southern Yellow Pine, Grading Rules for.....	412
Lumber, Substitutes Displaced 10 Billion Feet of.....	326
Lumber, The Cost of Resawing.....	98
Lumber the Greatest Building Material.....	182
Lumber, The One Nameless Material.....	276
Lumber, The Open-Tank Treatment of.....	223
Lumber, The Pressure-Vacuum Method of Treating.....	223
Lumber, The Right Uses of.....	321
Lumber "Trust" Impossible.....	350
Lumber, Unsuitable Uses of.....	375
Lumber, Users Should Know Actual Sizes of.....	183
Lumber Yard, Every, Should Carry Wood Blocks in Stock.....	388
Lumberman, "First Class" Defined.....	289
Lumbermen, Little Co-Operation from.....	384
Lumbermen Should Aid in Research Work.....	242
Lumbering, Hardships of Early-Day.....	361

M

Make Orders Fit the Stock.....	245
Make Your Talk Fit the Temperament.....	141
Making Sales, Personality a Factor in.....	256
Malice, Little, in Printed Attacks.....	332
Man, The, Who Applies Himself Will Win.....	277
Mansfield, C. J., Cost of Production from Pond to Sorting Chain....	186
Manufacture, Lumber, The Loss in.....	78
Manufacture of Lumber, What Do You Know of It?.....	295
Manufacturer, A Slim Chance for the.....	361
Manufacturer, Problems for the.....	239
Manufacturer, The, a Former Retailer.....	342
Manufacturer, Yard Stock Grading by.....	320
Manufacturers, A Recent Awakening Among.....	262
Manufacturers, Investigation Would Astonish.....	240
Manufacturers, Yellow Pine, A Mistake of.....	365
Many Subjects Treated in Many Publications.....	329
Market Conditions, Prices, etc.....	57
Market, A Tremendous, Near Home.....	29
Market, The, Sales That May Hurt.....	208
Markets, Finding in Unexpected Places.....	215
Marketing, Hit-or-Miss Methods of.....	360
Martin, J. W., Address, Yard Stock Grading Rules.....	319
Martin, Charles E., Address, Co-Operation from the Sawmill.....	243
Material, Lumber the Greatest Building.....	182
Material, Lumber the One Nameless.....	276

	Page
Materials, Competitive, Possibilities in Knowledge of.....	54
Materials, Competitive, High Prices of, Help.....	195
Materials, Other, Delivered as Ordered.....	178
McVey, Hugh, Address, Reaching the Consumer.....	253
Meaning of "Good Stock".....	34
Meaning, The, of Association "Service".....	267
Meaning, The, of Mill-Construction.....	273
Meaning, The, of Perfect Efficiency.....	291
Meaning, The, of "Prompt Shipment".....	39
Meaning, The, of "Small" Seasoning Checks.....	101
Meaning, The, of Trade Extension.....	306
Measures, Preventive, for the Salesman.....	316
Measurement, Choosing an Area of.....	336
Meet Competition, Ill-Advised Efforts to.....	191
Meet Criticisms, Prepare to.....	30
Meeting, Purpose of, by Harry T. Kendall.....	10
Meeting the "Fire Hazard" Argument.....	184
Meeting the Customer on a Social Basis.....	344
Men You Deal with, the Three Types.....	142
Merits of Wood and Its Limitations, Address by E. A. Sterling.....	199
Merits of Wood, Teach Others the.....	152
Merchandising, Careless, Evils of.....	178
Merchandising, Retail.....	58
Metal, Office Equipment of.....	325
Methods, Association, The Greatest Good Through.....	366
Methods of Marketing, Hit-or-Miss.....	360
Methods of Rubbing Finishes.....	281
Methods of Preventing Decay in Southern Yellow Pine, Address by Dr. H. von Schrenk.....	218
Methods of Utilization.....	233
Method and Cost of Manufacture, As to.....	55
Mill Refuse, Possibilities for, by H. F. Weiss.....	232
Mill Waste, A Forest Service Expert Talks on.....	78
Mill Men Finally Awake.....	362
Mill-Constructed Buildings Are Flexible.....	338
Mill-Construction Buildings, Low Insurance on.....	274
Mill-Construction or Concrete.....	274
Mill-Construction, The Meaning of.....	273
Mill-Construction, Standard, Kidder on.....	178
Mill-Construction, Standard, by R. S. Lindstrum.....	269
Mill Costs, Factors in.....	187
Mill Stocks, Keep Posted on.....	208
Mill to Car, Cost from, L. J. Boykin.....	226
Mills Fail to Provide for Factory Needs.....	311
Mills, Information They Should Have.....	318
Mills, Keep in Close Touch with the.....	197
Mills, The, Claims Developing at.....	317
Mis-Matched Flooring.....	102
Mis-Matched Flooring, A Use for.....	103
Misconception, Public, of Southern Pine Varieties.....	277
Mistake, A, of Yellow Pine Manufacturers.....	365
Misuse, An Example of.....	74
Mixed Timber Quality Hurts Prices.....	338
Modern Competition, The Demands of.....	371
Modifications of the Requirements.....	337
More Wood Used in Block Floors.....	389
Most Desirable Order, The.....	205
Motive Power, The, That Moves Us.....	294
Myers, C. W., Address, Selling Factory and Industrial Trade.....	310

N

	Page
National Association, Work for the.....	376
Natural Talents Must Be Cultivated.....	286
Neatness, Personal, The Value of.....	62, 301
Need, The, of Uniform Cost Accounting.....	188
Nelson, M. B., Address, Co-Operation with Distributors and Consumers.....	150
New Specifications for Laying Shingles.....	192
New Rule Received with Enthusiasm.....	338
New Business, On the Alert for.....	213
New Specifications for Wooden Boxes.....	84
No. 1 Common, No "Select".....	107
No. 1 Car Siding, Wane on.....	105
No. 1 Pine Lath, Pitch in.....	110
No. 2 Fencing and No. 2 Flooring Graded the Same.....	109
No. 2 Flooring and No. 2 Fencing Graded the Same.....	109
No. 2 Center Matched, Grading.....	107
No. 3 Fencing, Grading.....	108
No Book Tells the Story of Lumber.....	132
No Man 100 Per Cent Efficient in All Things.....	292
No Rules for Handling a Dude.....	138
No Secrets in the Lumber Business.....	18
No "Select" No. 1 Common.....	107
No Time for Facial Analysis.....	134
Non-Growing Worker, Cut Off.....	166
Northern Lumber Prices, Stability in.....	364
Nothing Beyond Reach of Aggressiveness.....	172
Notation, The, "Good Grade" Unnecessary.....	35
Novel Uses for Wood Waste, A Variety of.....	82
Noyes, A. H., Address, Creosoted Wood Blocks for Interior Service..	383

O

Obligation, The, of the Sales Manager.....	243
Odd Items and "Irregular" Stock, Working Off.....	374
Odds and Ends, Disposing of.....	208
Of Importance to the Salesman of Wood.....	202
Off-Grades, The Handling of.....	231
Office-Made Route Sheet Hampers Salesman.....	248
Office Equipment of Metal.....	325
Office, Your, Information for.....	374
Old Rules Not Satisfactory.....	335
One Man's Aggressiveness, A Triumph of.....	168
One of Your Best Talking Points.....	333
Only 31 Per Cent of a Tree Is Saved.....	232
Open-Tank Treatment, The, of Lumber.....	223
Order, Following Through an, for Wood Blocks.....	384
Order, Judging the, Address, F. R. Watkins.....	203
Order, Landing an, After Three Tries.....	343
Order, Laying the Foundation for an.....	386
Order, The Most Desirable.....	205
Orders, Acceptability of, at the Mill.....	204
Orders, As to Holding Up.....	252
Orders for Varied Lengths Appreciated at Mill.....	245
Orders, Grading, Volume Not a Factor in.....	205
Orders, Judging.....	32
Orders Should Be Filled as Given.....	247
Orders, "One-Size," May Cause Trouble, How.....	205
Orders, The Importance of Writing Carefully.....	210
Order-Takers Who Call Themselves Salesmen.....	370

	Page
"Order-Taker," The, Has Become a Salesman.....	290
"Ordinary," Construction Known as.....	275
Organization Means Efficiency, Address by Charles S. Keith.....	11
Organization, Territorial, Work for.....	48
Organizations, Co-Operative, Government Approval of.....	122
Organization, Territorial, of Salesmen.....	114
Origin of Standard Grades.....	334
Origin of Blue Stain.....	219
Originality and Initiative.....	64
Other Materials Delivered as Ordered.....	178
Outwitting Competition in Railway Service.....	351
Over-run, Wide Variation in.....	158

P

Pace of the Customer, Take the.....	141
Paints, Fire Resistant Shingle.....	383
Paints, Tinted, Last Longest.....	380
Painted Shingle Roofs, Advantages of.....	383
Painting and Finishing Southern Yellow Pine, Address, H. A. Gardner.....	378
Painting Shingle Roofs.....	382
Painting with Preservative Has Little Value.....	222
Painting Yellow Pine Exteriors.....	379
Painting Yellow Pine Interiors.....	380
Painting Yellow Pine, Lecture on.....	25
Palmistry Involves "Holding Hands".....	135
Paper, The Best, Southern Pine Makes.....	79
Partition and Flooring, Difference of Value in.....	100
Past with the Future, Contrasting.....	358
Patent Roofing, Tile and Slate.....	326
Pavements, Street, Brick and Wood in.....	323
Per Acre Yield a Large Factor.....	160
Per Cent of a Tree Saved, Only 31.....	232
Perfect Efficiency, The Meaning of.....	291
Personal Neatness, The Importance of.....	62, 301
Personal Profit, Superior Knowledge Means.....	268
Personality, Address, Approach.....	63
Personality a Factor in Making Sales.....	256
"Personality," The Right Kind of.....	301
Persuading Dealers to Handle Short Lengths.....	46
Phrenology an Empty "Science".....	134
Pine, Southern, Makes the Best Paper.....	79
Pine Lath, No. 1, Pitch in.....	110
Pitch in C Finish.....	103
Pitch in No. 1 Pine Lath.....	110
Plan, A, to Enlist Government Aid.....	15
Plea, A, for Honest Lumber.....	176
Points of Superiority of Wood Block Floors.....	387
Points, The Superior, of a Shingle Roof.....	190
Pond to Sorting Chain, Cost from.....	28, 186
Poor Way to Sell Lumber, A.....	217
Possibilities, Big, in Wood Block Interiors.....	383
Possibilities for the Lumber Salesman.....	341
Possibilities for Mill Refuse, Address, H. F. Weiss.....	232
Possibilities in Ethyl Alcohol.....	80
Possibilities in a Knowledge of Competitive Materials.....	54
Power in Commercial Greatness, Endurance of.....	148
Practical Use of Technical Knowledge.....	284
Praise, Varying Complaints with.....	310

	Page
Prefers Learning to Gin.....	111
Prepare to Meet Criticisms.....	30
"Preparedness" Practiced by the Association.....	195
Preserve Wood, Chemicals That Effectually.....	222
Preservative, Painting with, Has Little Value.....	222
Pressure-Vacuum Method of Treating Lumber.....	223
Preserved Wood, How to Use.....	225
Preservation, Wood, The Study of a Duty.....	225
Preservative Treatment, The, of Wood.....	75
President Keith Introduced.....	11
Prevention of Decay by Chemical Treatment.....	221
Preventive Measures for the Salesman.....	316
Price Cutting, Unnecessary.....	308
Price Inquiries, Letting the Salesman Answer.....	251
Price Quoting, Efficiency in.....	296
Price the Only Obstacle to Wood Block Floors.....	387
Price, Yellow Pine Has No Competitor in.....	368
Prices, High, of Competitive Materials Help.....	195
Prices, High, for Short Lengths.....	372
Prices, Market Conditions, etc.....	57
Prices, Mixed Timber Quality Hurts.....	338
Prices, Northern Lumber, Stability in.....	364
Problem, The, of Getting a Profit.....	14
Problem, The, of the Customer.....	133
Problems for the Manufacturer.....	239
Proceedings, Salesmen's Convention.....	6
Product, Lumber Salesmen Should Know All About.....	202
Product, Learn to Know Our.....	151
Producers of Growth Should Share in Growth.....	165
Product, The Value of Knowing Your.....	70
Production, Cost of, Closely Watched.....	186
Production, Cost of, from Pond to Sorting Chain.....	186
Production, Relation of Cost of, to Cost of Selling.....	261
Profit, The Contractor Figures for.....	270
Profit, Public, in Trade Organizations.....	156
Profit, the Problem of Getting a.....	14
Profits and Economy.....	64
Profits, Greater, and a Pleased Customer.....	372
Profits, The Hope of, in Closer Utilization.....	79
Program of Convention.....	3
Progress in the Utilization of Waste.....	233
Promises, Empty, of Prompt Delivery.....	277
Promises Salesmen Make, Backing Up the.....	251
Promote Efficiency, Trade Associations.....	123
Promoting Yellow Pine Timbers.....	269
Promotion, Sales, Built on Advertising.....	385
Promotion Service.....	119
Promotion Work in Europe.....	121
Prompt Delivery, Empty Promises of.....	277
"Prompt," "Immediate" and "Rush" Shipments.....	39
"Prompt Shipment," The Meaning of.....	39
Proper Fixed Charges, The Question of.....	14
Properly Used, See That Yellow Pine Is.....	197
Proposed Amendment, Text of.....	15
"Prospects," Getting a Line on.....	386
Provide for Factory Needs, Mills Fail to.....	312
Psychology for the Salesman.....	65
Public Profit in Trade Organizations.....	156
Purpose in Organizing the Southern Pine Association.....	12

	Page
Publicity, Association, as a Lumber Salesman, Address by W. J. Ferry.	327
Publications, List of, Issued and Distributed by the Southern Pine Association	471
Public Opinion, Salesmen Can Sway.	353
Public, Facts That Appeal to the.	71
Public Demand, Trend of, Salesmen Should Watch.	204
Public, The, Likes Shingles.	193
Publicity Service, Association.	120
Public Misconception of Southern Pine Varieties.	278
Public Sentiment and the Lumber Salesman, Address, Gen. L. C. Boyle.	347
"Pull," Don't Try to Win Through.	276
Purpose of Meeting, by Harry T. Kendall.	10
Put the Brand of Excellence on Each Piece.	321

Q

Quality, Known, Architects' Confidence Based on.	181
Queries, Samples of, Received.	20
Question for the Commission, A.	98
Question, The, of Proper Fixed Charges.	14
Questions, An Invitation to Ask.	19
Questions Asked, Discussion of the.	33
Questions, Be Ready to Answer.	375
Questions, Dr. von Schrenk Answers.	22
Questions, Some, Answered by Letter.	112
Questions, Some, Salesmen Ask.	33
Questions, The Density Rule Answers.	72

R

Railway "Heart" Specification, A.	92
Rates, Low, of Insurance on Mill-Construction Buildings.	274
Reach of Aggressiveness, Nothing Beyond the.	172
Real Start, A, in Science.	136
Reading a Man's Character by His Dress.	136
Reading the Tones of Voice.	138
Reasons, Ten, for the Sale of Wooden Silos, Address by J. Lewis Thompson.	389
Recent Awakening, A, Among Manufacturers.	262
Records That Are Helpful.	216
Regions, Treeless, Saved by Railroads.	199
Regulate Selling Cost, The Salesman Can.	260
Relation of Cost of Production to Cost of Selling.	261
Relative Value and Cost of Substitutes. Do You Know?	295
Remedies, Denied the Use of.	14
Repairs Easy, in Wooden Silos.	392
"Representative" as Well as "Salesman".	263
Requirements, The, Modifications of.	337
Re-Sawing Lumber, The Cost of.	98
Re-Sawing and Ripping.	229
Research Work, Lumbermen Should Aid in.	242
Resistance, Resin Does Not Increase Decay.	219
Resin Does Not Increase Decay Resistance.	219
Response to Address of Welcome.	10
Retail Merchandising.	58
Retail Yards, What Mill Operators Might Learn at.	246
Retailer's Benefit, Work for the.	334
Retailers, Four Hundred, Used Cuts.	331

	Page
Re-Working, The, of Special Stock.....	230
Reaching the Consumer, Address, Hugh McVey.....	253
Requirements, The, for a Roofing Material.....	190
Retailer, How Do You Rank as?.....	297
Retailers Urge Association Support.....	117
Rhodes, J. E., Address, What the Southern Pine Association Is.....	115
Richardson, Jr., J. F., Address, Co-Operation with Architects and Builders.....	175
Right Species, Specify—Then Get It.....	176
Right Kind, The, of "Personality".....	301
Right Grade, The, in the Right Place.....	198
Ripping and Re-Sawing.....	229
Right Thing, The, at the Wrong Time.....	131
Right Uses of Lumber, The.....	321
Roofs, Shingle, Painting.....	382
Roofs, Painted Shingle, Advantages of.....	383
Roofing Material, A, the Requirements for.....	190
Rot, Tree, That Shows in Finished Lumber.....	218
Rot in Living Tree Ends with Cutting.....	218
Rosin and Turpentine.....	80
Roofing, Grooved, Worth More Than Shiplap.....	100
Roll of Attendance at the School of Salesmanship.....	394
Route Sheet, Office Made, Hampers Salesman.....	248
Robinson, S. E., Address, Technical Training in Lumber Business..	282
Rubbing Finishes, Methods of.....	281
Rugs and Linoleum from Wood Fibre.....	83
Rule, Density, Do You Know the?.....	196
Rule, Density, Eliminates Guesswork.....	338
Rule, The Density, Address by J. E. Jones.....	334
Rule, The Density, Answers Questions.....	72
Rule, The Density, An Effort to Misconstrue.....	337
Rule, The Density, Definition of.....	461
Rule, The New, Received with Enthusiasm.....	338
Rule, The Density, Measures Strength Only.....	73, 339
Rules, Association, Should Be Standard.....	38
Rules, Grading, for Southern Yellow Pine Lumber.....	412
Rules, Established, Grade Close to.....	321
Rules, Old, Not Satisfactory.....	335
Rules, Simpler, The Forest Service Sought.....	335
Rules, The Intent of Association, to Standardize.....	110
"Rush," "Prompt" and "Immediate" Shipments.....	39

S

Sackett, H. S., Address, Wood Substitutes.....	322
Sale of Silos, The, a Specialty.....	390
Sale, The Five Elements of a.....	129
Sales and Advertising Departments Allies.....	327
Sales Department, The Industry Dependent on.....	306
Sales, How Advertising Helps Make.....	254
Sales Manager, The Obligation of.....	243
Sales Organizations, Faults of.....	150
Sales, Personality a Factor in Making.....	256
Sales Promotion Built on Advertising.....	385
Sales That May Hurt the Market.....	208
Sales, Wood Block, Price the Only Obstacle to.....	387
Salesman, A, Who Adapted Himself.....	346
Salesman, Advertising Help for.....	265
Salesman, Are You a Wise?.....	304
Salesman, Association Publicity as a, Address by W. J. Ferry.....	327

	Page
Salesman, Co-Operation with, from General Office.....	247
Salesman, How, Can Help in Waste Utilization.....	238
Salesman Hampered by Office-Made Route Sheet.....	248
Salesman, How the, Can Help.....	177
Salesman, Lumber, Duty of the.....	194
Salesman, Lumber, Efficiency and the, Address by R. J. Tolson....	286
Salesman or Shipping Clerk to Judge?.....	41
Salesman, Public Sentiment and the, by Gen. L. C. Boyle.....	347
"Salesman," "Representative" as Well as.....	263
Salesman Should Guard Employers' Interests.....	318
Salesman, The, as a Traffic Expert.....	297
Salesman, The, Can Regulate Selling Costs.....	260
Salesman, The, an Association Asset.....	263
Salesman, The, Knows Conditions Best.....	42
Salesman, The, How He Can Aid His Customer.....	58
Salesman, The, Psychology for.....	65
Salesman, The Substitute, on the Job.....	76
Salesman, The, the All-Importance of.....	348
Salesman, The, Was the "Goat".....	106
Salesman, The, Should Know These Things.....	275
Salesman, The Lack of Support for.....	342
Salesman, The Lumber, and His Possibilities, Address by Capt. J. B. White.....	340
Salesman, The Lumber, Public Sentiment and, Address by Gen. L. C. Boyle.....	347
Salesman, The, Preventive Measures for.....	316
Salesman, The, as a Consulting Expert.....	179
Salesman, The "Order Taker" Has Become a.....	290
Salesman, The, An Institution.....	393
Salesman, Traveling, Cutting Out the.....	393
Salesman, Why the, Must Know Grades, Address by W. J. Haynen..	194
Salesman Worth-While, The, Employers Want.....	171
Salesman's Instructions, When a, May Cause Trouble.....	39
Salesman's Territorial Organization Outlined.....	48
Salesman's, The, First Asset Is Confidence.....	248
Salesman's, The, Most Valuable Asset, Wisdom.....	67
Salesman's, The, Work is Distribution.....	128
Salesman's Value, Getting the.....	130
Salesmen, A Most Important Aid to.....	331
Salesmen, Advertising to, The Importance of.....	333
Salesmen and Commission Men, When They Conflict.....	250
Salesmen and Dealers Must Be Educators.....	182
Salesmen Are the Eyes of the Industry.....	309
Salesmen, Backing Up the Promises They Make.....	251
Salesmen Can Set the Public Right.....	44
Salesmen Can Sway Public Opinion.....	353
Salesmen, Do, "Play Favorites"?.....	37
Salesmen, Good, Should Be Good Lumbermen.....	289
Salesmen, How, Can Co-Operate with the Association.....	262
Salesmen, Ignorant, Not Welcome Callers.....	181
Salesmen, Information They Should Have.....	244
Salesmen in the Front.....	356
Salesmen, Keeping Posted on Correspondence.....	248
Salesmen, Lumber, Should Know All About Their Product.....	202
Salesmen, Letting, Answer Price Inquiries.....	251
Salesmen Must Help to Meet Conditions.....	176
Salesmen of Wood, Of Importance to.....	202
Salesmen Should Read, Write and Talk.....	266
Salesmen Should Watch Trend of Public Demand.....	204
Salesmen Should Work Together.....	154

	Page
Salesmen Should Study Factory Uses of Lumber.....	85
Salesmen, Some, Not "Well Born".....	287
Salesmen, Some Questions They Ask.....	33
Salesmen, The Training of, Neglected.....	169
Salesmen to Remember, Something for.....	352
Salesmen, Traveling, Territorial Organization of.....	114
Salesmen, Traveling, The Importance of.....	255
Salesmen, Trade Extension Work for.....	267
Salesmen, Withholding Credit from.....	249
Salesmen's Ability to Specialize Means Increased Sales.....	273
Salesmen's School a Step in Advance.....	357
Salesmanship, Address, D. M. Barrett.....	161
Salesmanship Becoming an Art.....	376
Salesmanship, Good, An Example of.....	351
Salesmanship, Good, Not All in Selling Quantity.....	374
Salesmanship, Good, Thorough Knowledge Essential to.....	196
Salesmanship Is a Science Today.....	125
Salesmanship, Lumber, Address by Edward Hines.....	356
Salesmanship, Specialization in, Essential Now.....	369
Salesmanship, School of, What It Should Do.....	132
Salesmanship the Act of Growth.....	163
Salesmanship, The Goods the Essential Thing in.....	132
Salesmanship, Where We Learn.....	162
Sap Wood to Heart Wood, Decay Spreads.....	220
Samples of Queries Received.....	20
Sap Lumber Good When Creosoted.....	76
Saving on Hotel Bills.....	257
Sawmill, Co-Operation from the.....	69
Sawmill, Co-Operation from the, Address, C. E. Martin.....	243
Sawmill Costs, Address, C. J. Mansfield.....	186
Sawmill Costs, Association Figures on.....	188
Sawmill to Yard.....	228
Science, Salesmanship Is a.....	125
"Science," Phrenology an Empty.....	134
Science, The Definition of a.....	125
Science, A Real Start in.....	136
School, Salesmen's, a Step in Advance.....	357
School of Salesmanship, Attendance Classified as to Firms Represented.....	403
School of Salesmanship, Proceedings of.....	6
School of Salesmanship, Roll of Attendance at the.....	394
School of Salesmanship, What It Should Do.....	132
Schopflin, Frank, Address, Stumpage and Logging Costs.....	158
Seasoned Wood, Well, Takes Paint Best.....	378
Seasoning Checks, "Small," The Meaning of.....	101
See That Yellow Pine Is Properly Used.....	197
Secrets, No, in the Lumber Business.....	18
Seidel, Julius, Welcoming Address by.....	8
Self-Control a Factor of Efficiency.....	299
Self-Control—a Brake.....	60
Sell Lumber, Instruction Helps.....	283
Selling, An Analysis of.....	128
Selling Cost, Relation of, to Cost of Production.....	261
Selling Cost, Direct and Indirect, Address, W. M. Beebe.....	255
Selling Costs, High and Low.....	260
Selling Costs, The Salesman Can Regulate.....	260
Selling Difficulties, Some, of Today.....	369
Selling, Economical, Means Increased Profits.....	303
Selling Energies, The Best Utilization of.....	155
Selling Errors, Claims Arising from.....	315

	Page
Selling Essential, Courtesy the Greatest.....	377
Selling Expense, The Items of.....	256
Selling Factory and Industrial Trade, Address, C. W. Myers.....	310
Selling Lumber, Average Cost of.....	259
Selling Lumber, Common Sense in.....	248
Selling Short Lengths, A Leader in.....	346
Selling Territory, The Advantage of a Small.....	215
Sense, Common, in Selling Lumber.....	248
"Separate" Business That Became "Regular" Business.....	214
Service, Advertising Is.....	254
"Service," Association, The Meaning of.....	267
Service, Accounting.....	119
Service, Association Inspection.....	116
Service, Association Publicity.....	120
Service, Engineering.....	121
Service, Helpful Current Statistical.....	118
Service, Promotion.....	119
Service, The, To Be Extended.....	332
Service, Traffic.....	120
Set the Public Right, Salesmen Can.....	44
Sheet, Office-Made Route, Hampers Salesman.....	248
Shingle, Heart Pine, The Life of a.....	88
Shingle Paints, Fire Resistant.....	383
Shingle Roof, A, The Superior Points of.....	190
Shingle Roofs, Painting.....	382
Shingle Roofs, Advantages of Painted.....	383
Shingle, The Wood, Best.....	29
Shingle, The Yellow Pine.....	28
Shingle Users, Facts for.....	193
Shingles and the Fire Hazard.....	191
Shingles, Lath and Box Shooks, Boost.....	306
Shingles, Laying, New Specifications for.....	192
Shingles, Limitations in the Use of.....	30
Shingles, The Public Likes.....	193
Shingles, Yellow Pine, Address by J. H. Eddy.....	189
Shipment, "Prompt," The Meaning of.....	39
Shipments, As to Transit Car.....	96
Shipments, "Prompt," "Immediate" and "Rush".....	39
Shipping Clerk or Salesman to Judge?.....	41
Shipping Clerks, The Importance of.....	246
Shipping Lumber at Fifty Cents a Thousand.....	362
Shipments, Transit, A Majority of Dealers Against.....	97
Shiplap, Grooved Roofing Worth More Than.....	100
"Short Leaf" and "Long Leaf" Confusing.....	335
Short Leaf for Interior Trim.....	278
Short Lengths and the Specialty Salesman.....	313
Short Lengths, Disposing of.....	45
Short Lengths, High Prices for.....	372
Short Lengths, Persuading Dealers to Handle.....	46
Short Lengths, When the Customer Won't Pay for.....	47
Short Lengths Worth as Much as Long.....	314
Short Lengths, Selling, A Leader in.....	346
Side Lines, Lumber Dealers Carry Too Many.....	184
"Sign Here," The Accent that Means.....	140
Silo Building Increases Other Lumber Uses.....	389
Silos, Other, Faults of.....	392
Silo, The Wooden, Address, J. Lewis Thompson.....	389
Silo, The Wooden, Economy of.....	392
Silos, Creosoted, Do Not Injure Feed.....	88
Silos, Mr. Thompson Talks on.....	43

	Page
Silos, Teaching a Dairyman About.....	345
Silos, The Sale of, a Specialty.....	390
Silo, Wood, Superior Points of.....	390
Silos, Wooden, Arguments Supporting Ten Reasons for.....	391
Silos, Wooden, Preserve Green Feed Best.....	391
Silos, Wooden, Repairs Easy in.....	392
Simpler Rules, The Forest Service Sought.....	335
Sizes, Lumber Assembled Without Regard to.....	359
Slate, Tile and Patent Roofing.....	326
Slow-Paying Customers Should Pay More.....	210
Slow Man, A, Resents Being Hurried.....	141
Slim Chance, A, for the Manufacturer.....	361
Small Logs Expensive to Handle.....	187
Small Business and Big Business.....	352
"Small" Seasoning Checks, The Meaning of.....	101
Social Basis, Meeting the Customer on a.....	344
Soda Dip, Cost of Increased.....	227
Some Salesmen Not "Well Born".....	287
Some Limitations of Wood.....	201
Some Selling Difficulties of Today.....	369
Some Drawbacks of Astrology.....	135
Some Peculiarities of Advertising.....	253
Some Questions Salesmen Ask.....	33
Sorting Chain, Costs from Pond to.....	28, 186
Southern Pine Makes the Best of Paper.....	79
Southern Pine Association, Hope in.....	353
Southern Pine Association Publications, List of.....	471
Southern Pine Association, What It Is, by J. E. Rhodes.....	115
Southern Pine Association, The, Purpose in Organizing.....	12
Southern Yellow Pine Advertising, Address, W. J. Ferry.....	327
Southern Yellow Pine Is Best.....	179
Southern Yellow Pine Timbers and the Density Rule.....	461
Southern Yellow Pine, Exploiting, Address by W. H. Sullivan.....	305
Southern Yellow Pine Lumber, Grading Rules for.....	412
Southern Yellow Pine Car Material, Specifications for.....	447
Special Order, Gained \$30 a Thousand on a.....	372
Special Articles Boosting the Industry.....	332
Special Stock, The Re-Working of.....	230
Specialists, Architects Are Becoming.....	272
Specialization in Salesmanship Essential Now.....	369
Specialization, This an Age of.....	311
Specialty Salesman, The, and Short Lengths.....	313
Specialty, The Sale of Silos a.....	390
Species, Identifying, "By the Feel".....	24
Specify the Right Species—Then Get It.....	176
Species, Lumber Dealers Don't Know.....	177
Spring and Summer Wood, Color in.....	336
Species, Botanical, Not Considered.....	337
Specification, A Railway "Heart".....	92
Specifications, New, for Laying Shingles.....	192
Specifications, New, for Wooden Boxes.....	84
Specifications, Southern Yellow Pine Car Material.....	447
Specifications, Standard, Southern Yellow Pine Bridge and Trestle Timbers.....	441
Specification, The "Standard Heart".....	89
Stability in Northern Lumber Prices.....	364
Stabilizing the Lumber Industry, A Step Toward.....	17
Stain, Blue, Does Not Affect Strength of Wood.....	220
Stain, Blue, The Origin of.....	219
Staining and Varnishing Yellow Pine.....	381

	Page
Standard Mill-Construction, Kidder on.....	178
Standards, Varied, in Judging Lumber.....	319
"Standard Heart" Specification, The.....	89
Standard Specifications for Southern Yellow Pine Bridge and Trestle Timbers.	441
Standard "Heart" in the South.....	91
Standard Matched, Why Flooring Is.....	99
Standard, The, Association Rules Should Be.....	38
Standardize, The Intent of Association Rules Is to.....	110
Standard Grades, The Origin of.....	334
Standard Mill Construction, Address by Robert S. Lindstrum.....	269
Start, A, Toward Uniform Accounting Methods.....	13
Start in Science, A Real.....	136
Statistical Service, Current, Helpful.....	118
Steel, Where, Has Increased Use of Wood.....	324
Step, A, Toward Stabilizing the Lumber Industry.....	17
Steel in Competition with Wood.....	323
Steel Substituted for Structural Timbers.....	324
Steel and Wood in Fire.....	324
Sterling, E. A., Address, Merits of Wood and Its Limitations.....	199
Still a Power, The "Drummer".....	393
Stock, Every Lumber Yard Should Carry Wood Blocks in.....	388
Stock, Good, in Wood Blocks.....	384
Stock, Inspectors Handle as They Find It.....	100
Stock, Wet, Green and Crooked.....	246
Stock, Make Orders Fit the.....	245
Stock, Special, The Re-Working of.....	230
Stock, Surplus, A Safe Percentage of.....	40
Story of Lumber, The, No Book Tells.....	132
Strength Combined with Lightness.....	200
Strength, Comparative, of Fir and Yellow Pine.....	90
Strength of Wood, Blue Stain Does Not Affect.....	220
Strength of Wood, Turpentine Does Not Affect.....	220
Strength in Summer Wood.....	23
Street Pavements, Brick and Wood in.....	323
Structural Timbers, Steel Substituted for.....	324
Structural Timbers, The World's Best.....	198
Study Failures as Well as Successes.....	126
Study of Cost-Keeping Systems.....	86
Study, The, of Temperament.....	140
Study, The, of Wood Preservation a Duty.....	225
Study Yellow Pine in Use.....	71
Studying the User's Needs, The Value of.....	373
Stumpage and Logging Costs.....	27
Stumpage and Logging Costs, Address, Frank Schopflin.....	158
Stumpage Values, Expects Enhanced.....	357
Stumpage Values, The, in White Pine.....	365
Subjects, Many, Treated in Many Publications.....	329
Substitute Salesman, The, on the Job.....	76
Substitute for Cotton, Wood a.....	83
Substitutes, Competition of, Forced a Change.....	291
Substitutes Displace 10 Billion Feet of Lumber.....	326
Substitutes, Do You Know the Relative Value and Cost of?.....	295
Substitutes, How to Offset Inroads of.....	327
Substitutes, Knowledge of.....	53
Substitutes, Talking Points of Wood Competing with.....	93
Substitutes, Wood, Address, H. S. Sackett.....	322
Successes, Study Failures as Well as.....	126
Success Today a Matter of Action.....	161
Sullivan, W. H., Address, Exploiting Southern Yellow Pine.....	305

	Page
Summer and Spring Wood, Color in.....	336
Summer Wood, Strength in.....	23
Superior Beauty, The, of Wood.....	200
Superior Knowledge Means Personal Profit.....	268
Superior Points of the Wood Silo.....	390
Superior Points, The, of a Shingle Roof.....	190
Support, Lack of, for the Salesman.....	342
Support, Retailers Urge Association.....	117
Supply Catches the Demand, When the.....	366
Supply What Is Wanted—or Pass the Sale.....	272
Surplus Stock, A Safe Percentage of.....	40
Suspicious Are Contagious.....	249
Sway Public Opinion, Salesmen Can.....	353
Systems, Cost-Keeping, Study of.....	86
Systems, Unit Cost Keeping, Lacking.....	241

T

Tact and Judgment.....	63, 301
Tact, The Elusive Definition of.....	131
Take the Pace of the Customer.....	141
Talents, Natural, Must Be Cultivated.....	286
Talking Points, One of Your Best.....	333
Talking Points of Wood, The, in Competition with Substitutes.....	93
Tall Buildings Losing Favor.....	182
Task, The, of Educating Ourselves.....	12
Teach Others the Merits of Wood.....	152
Teaching a Dairyman About Silos.....	345
Team-Work, Co-Operation Means.....	66, 304
Team-Work, Co-Operation Which Means.....	303
Technical Knowledge, Practical Use of.....	284
Technical Knowledge, The, Required.....	371
Technical Training in Constant Use.....	285
Technical Training in the Lumber Business.....	26
Technical Training in Lumber Business, S. E. Robinson.....	282
Technical Work, A, on Finishing Yellow Pine.....	330
Telephone, Doing Business by.....	307
Temperament, The, Make Your Talk Fit.....	141
Temperament, The Study of.....	140
Ten Reasons for the Sale of Wooden Silos, Address by J. Lewis Thompson.....	389
Ten Reasons for Wooden Silos, Arguments Supporting.....	391
Territory, A Small, The Advantage of.....	215
Territory, How Best to Cover, Address by J. H. Heyl.....	212
Territorial Organization, Arrangement for.....	48
Territorial Organization, List of Members.....	114
Territorial Organization, Purpose of.....	48
Territorial Organization, The Salesmen's, Outlined.....	48
Territorial Organization, Work for.....	48
Test, Efficiency, Mr. Woodhead Submits to the.....	50
Text of Proposed Amendment.....	15
The Lumber Salesman and His Possibilities, by Capt. J. B. White.....	340
These Things the Salesman Should Know.....	275
This an Age of Specialization.....	311
Thorough Knowledge Essential to Good Salesmanship.....	196
Thompson, J. Lewis, Address, Ten Reasons for the Sale of Wooden Silos.....	389
Tile, Slate and Patent Roofing.....	326
Timber, Average, and the Density Rule.....	101

	Page
Timber Quality, Mixed, Hurts Prices.....	338
Timber, Structural, The World's Best.....	198
Timbers, Branding of, Should Be Insisted Upon.....	276
Timbers, Promoting Yellow Pine.....	269
Timbers, Southern Yellow Pine, and the "Density Rule".....	461
Timbers, Structural, Steel Substituted for.....	324
Time, The Company's, Wasting.....	258
Times Change in Trade Conditions.....	17
Tinted Paints Last Longest.....	380
Tolson, R. J., Address, Efficiency and the Lumber Salesman.....	286
Too Much Handling in Lumber Manufacture.....	85
Trade Associations Promote Efficiency.....	123
Trade Barrier, A, Removed.....	269
Trade Conditions, Times Change in.....	17
Trade Extension, The Meaning of.....	306
Trade Extension Work for Salesmen.....	267
Trade, Industrial, Demands Close Study.....	312
Trade Organizations, Public Profit in.....	156
Traffic Expert, The Salesman as a.....	297
Traffic Rates and Transportation.....	57
Traffic Service.....	120
Training, Technical, in Constant Use.....	285
Training, Technical, in the Lumber Business.....	26
Training, The, of Salesmen Neglected.....	169
Transit Car Shipments, As to.....	96
Transit Cars, One Day's List of.....	97
Transit Shipments, The Majority of Dealers Against.....	97
Transportation and Traffic Rates.....	57
Traveling Salesman, Cutting Out the.....	393
Traveling Salesmen, The Importance of.....	255
Treated Lumber, Where It May Be Obtained.....	224
Treated Material, Where It Should Be Used.....	224
Treating Lumber, England Ahead of Us In.....	76
Treating Lumber, The Pressure-Vacuum Method of.....	223
Treating Wood That Is to Be Painted.....	225
Treatment, Chemical, Prevention of Decay by.....	221
Treatment, Experts Should Supervise.....	223
Treatment Given Wood Blocks.....	385
Treatment of Lumber, The Open-Tank.....	223
Treatment, The Preservative, of Wood.....	75
Tree Is Saved, Only 31 Per Cent of.....	232
Tree, Rot in Living, Ends with Cutting.....	219
Tree Rot That Shows in Finished Lumber.....	218
Tree, The, Grows on the Outside.....	89
Trees and Lumber, Diseases that Attack.....	73
Treeless Regions Saved by Railroads.....	199
Tremendous Market, A, Near Home.....	29
Trend of Public Demand, Salesmen Should Watch.....	204
Trestle Timbers, Bridge and, Specifications for.....	441
Trim, Interior, Short Leaf for.....	278
Trim, Care of Before Use.....	281
Triumph, A, of One Man's Aggressiveness.....	168
Trucking, Loading, etc., Items of.....	226
Truthfulness and Honesty.....	59
Turpentine and Benzol, Use of.....	380
Turpentine and Rosin.....	80
Turpentinizing Does Not Affect Strength of Wood.....	220
Turpentinizing Does Not Weaken Wood.....	88
"Trust," A Lumber, Impossible.....	350
Twine Made from Wood Waste.....	82

	Page
Twists, In Case of.....	102
Type, The "Heart," Using "Head" Arguments with.....	144
Type, The Intellectual, Dealing with.....	142
Type, "Will," Handling the.....	144
Types of Men, The Three, You Deal With.....	142

U

Uncommon Thing, Aggressiveness the.....	171
Uniform Accounting Methods, A Start Toward.....	13
Uniform Cost Accounting, The Need of.....	188
Unit Cost-Keeping Systems Lacking.....	241
Unnecessary Price Cutting.....	308
Unsuitable Uses of Lumber.....	375
Urge Use of Association Grades.....	316
Use, A, for Mis-Matched Flooring.....	103
Use Articles Made from Wood Waste.....	242
Use of Better Grades, Encourage the.....	376
Use of Lumber, Causes of Decreased.....	194
Use of Shingles, Limitations, in the.....	30
Use, The, of Cement Will Decline.....	347
Use, The, of Display Advertising.....	328
Use of Turpentine and Benzol.....	380
User of Wood, The Dealer as a.....	185
User, the Individual, Wood's Workability Appeals to.....	199
User's Needs, The, The Value of Studying.....	373
Users Should Know Actual Sizes of Lumber.....	183
Uses for Wood Waste, Novel, A Variety of.....	82
Uses of Wood, The, Co-Operating in Extending.....	84
Uses, The Right, of Lumber.....	321
Uses, Unsuitable, of Lumber.....	375
Using "Head" Arguments with the "Heart" Type.....	144
Utilization, Chemical and Mechanical.....	79
Utilization, Methods of.....	233
Utilization of Southern Pine Mill and Woods Waste, Address by Howard F. Weiss.....	232
Utilization of Waste, Chemical.....	237
Utilization of Waste, Progress in the.....	233
Utilization, The Best, of Selling Energies.....	155

V

Vain, Be Confident, But Not.....	300
Value, Difference In, of Partition and Flooring.....	100
Value of Advance Calling Cards, The.....	212
Value, The, of Courtesy.....	59
Value, The, of Knowing Your Product.....	70
Value, The, of Studying the User's Needs.....	373
Value, The, of Personal Neatness.....	301
Value, The Salesman's, Getting.....	130
Values, Expects Enhanced Stumpage.....	357
Values, The Advance In White Pine Stumpage.....	365
Valuable By-Product, A, Neglected.....	189
Variation, Wide, In Over-run.....	158
Varied Standards in Judging Lumber.....	319
Varied Lengths, Orders for, Appreciated at the Mill.....	245
Variety, A, of Novel Uses for Wood Waste.....	82
Variety, Identifying, In Lumber.....	23
Varieties, Southern Pine, Public Misconception of.....	278
Varying Complaints with Praise.....	310

	Page
Variations, Inevitable, In Low Grade Stock.....	36
Variations In Widths Bound to Occur.....	109
Varnish Maker's, A, Finishing Specifications.....	280
Varnishing and Staining Yellow Pine.....	381
Visitors, A Welcome to.....	18
Vocations, All, Are "In Business".....	129
Volume Not a Factor in Grading Orders.....	205
Von Schrenk, Dr. Hermann, Address, Decay of Yellow Pine Lumber..	218
Von Schrenk, Dr., Answers Questions.....	22

W

Wall-Board Made of Wood	81
Wane on Car Siding.....	104
Wane on No. 1 Car Siding.....	105
Waste, Annual, of Yellow Pine, 25 Million Cords.....	233
Waste, Chemical Utilization of.....	237
Waste, Progress In the Utilization of.....	233
Waste Utilization, How the Salesman Can Help in.....	238
Wasting the Company's Time.....	258
Watkins, F. R., Address, Judging the Order.....	203
Weaken Wood, Turpentine Does Not.....	88
Weiss, H. F., Address, Utilization of Mill Refuse.....	232
Welcome, Address of.....	7, 8
"Well Born," Some Salesmen Not.....	287
Well Seasoned Wood Takes Paint Best.....	378
Wet, Green and Crooked Stock.....	246
What a Course In Forestry Is.....	283
What a School of Salesmanship Should Do.....	132
What Do You Know of the Wood, Yellow Pine?.....	294
What Do You Know of the Manufacture of Lumber?.....	295
What Is Your Ambition?.....	309
What Mill Operators Might Learn at Retail Yards.....	246
What the Association Is Trying to Do.....	354
When the Consumer Dictates.	367
When The Customer Won't Pay for Short Lengths.....	47
What the Southern Pine Association Is, by J. E. Rhodes.....	115
What the Term "Ten to Twenty Foot Lengths" Implies.....	41
When a Salesman's Instructions May Cause Trouble.....	39
When Mill and Dealer Disagreed.....	106
When Salesmen and Commission Men Conflict.....	250
When the Supply Catches the Demand.....	366
Where Brick Displaces Wood.....	322
Where Steel Has Increased the Use of Wood.....	324
Where Treated Lumber May Be Obtained.....	224
Where Treated Material Should Be Used.....	224
Where We Learn Salesmanship.....	162
White, Capt. J. B., Address, The Lumber Salesman and His Possibilities.	340
White Pine Stumpage Values, The Advance In.....	365
Why Architects "Side-Step" Lumber Salesmen.....	271
Why Business Growth Stops.....	164
Why Flooring Is Standard Matched.....	99
Why Lumbermen Should Be Proud of Their Business.....	249
Why Salesmen Must Know Grades, Address by W. J. Haynen.....	194
Wide Latitude In Extending Credit.....	368
Wide Variation in Over-run.....	158
Widths, Variations In, Bound to Occur.....	109
"Will" Type, Handling the.....	144
Win Through "Pull," Don't Try to.....	276

	Page
Wise Architect, The, Avoids "Come-Backs".....	175
Wisdom the Salesman's Most Valuable Asset.....	67
Withholding Credit from the Salesman.....	249
Wood a Substitute for Cotton.....	83
Wood and Brick in Street Pavements.....	323
Wood and Steel in Fire.....	324
Wood Blocks, Booklets on.....	329
Wood Block Floors, Points of Superiority in.....	387
Wood Block Floors Save Breakage.....	388
Wood Blocks for Interior Service, Address by A. H. Noyes.....	383
Wood Block Interiors, Great Possibilities in.....	383
Wood Blocks, Good Stock in.....	384
Wood Blocks, Following Through an Order for.....	384
Wood Blocks Sales, Price Only Obstacle in.....	387
Wood Blocks, The Treatment Given.....	385
Wood, Chemicals That Effectually Preserve.....	222
Wood, Concrete As a Rival of.....	325
Wood Continuously Wet or Dry Does Not Decay.....	221
Wood Fibre, Rugs and Linoleum from.....	83
Wood in Competition with Substitutes.....	93, 322
Wood, Learn Factory Uses of.....	238
Wood, Merits of, and Its Limitations, Address, E. A. Sterling.....	199
Wood, More, Used in Block Floors.....	389
Wood, Of Importance to Salesmen of.....	202
Wood Preservation, The Study of a Duty.....	225
Wood, Preservative Treatment of.....	75
Wood Shingle, The, Best.....	29
Wood Silo, Superior Points of.....	390
Wood, Some Limitations of.....	201
Wood, Steel in Competition with.....	323
Wood, Strength of, Blue Stain Does Not Affect the.....	220
Wood, Strength of, Turpentinizing Does Not Affect.....	220
Wood Substitutes, Address by H. S. Sackett.....	322
Wood, Summer and Spring, Color in.....	336
Wood Tabernacles Only for Billy Sunday.....	346
Wood, Talking Points of, in Competition With Substitutes.....	93
Wood, Teach Others the Merits of.....	152
Wood That Is to Be Painted, Treating.....	225
Wood, The Superior Beauty of.....	200
Wood, Turpentinizing Does Not Weaken.....	88
Wood Waste, A Variety of Novel Uses for.....	82
"Wood Waste Exchange," A Government.....	239
Wood Waste, Use Articles Made from.....	242
Wood, Well Seasoned, Takes Paint Best.....	378
Wood, Where Brick Displaces.....	322
Wood, Where Steel Has Increased Use of.....	324
Wood, Which?.....	348
Wood-Working Machines, Improved, Needed.....	240
Wood Working Exchange, The Government's.....	86
Wood, Yellow Pine the Leading.....	363
Wooden Boxes, New Specifications for.....	84
Wooden Houses Good for a Century.....	378
Wooden Silo, Economy of.....	392
Wooden Silos, Arguments Supporting 10 Reasons for.....	391
Wooden Silos Preserve Green Feed Best.....	391
Wooden Silos, Repairs Easy in.....	392
Wooden Silos, Ten Reasons for the Sale of, Address, J. Lewis Thompson.....	389
Woodhead, Ben S., Address, How Salesman Can Co-Operate with Association.....	262

	Page
Woodhead, Ben S., Examination In Efficiency.....	50
Woodhead, Mr., Submits to Efficiency Test.....	50
Woods, Comparative Length of Life of.....	94
Woods, Competitive, a Low Score on.....	53
Woods, How About Competitive?.....	294
Woods, Waste, Mill and, Utilization of Southern Pine, Address by H. F. Weiss.....	232
Wood's Workability Appeals to Individual User.....	199
Work, Association, Is For All.....	157
Work for the National Association.....	376
Work for the Territorial Organization.....	45
Work for the Retailers' Benefit.....	334
Work, Promotion, In Europe.....	121
Work, The Salesman's, Is Distribution.....	128
Work Together, Salesmen Should.....	154
Workability, Wood's, Appeals to Individual User.....	199
Working Off Odd Items and "Irregular" Stock.....	374
Worker, Cut Off the Non-Growing.....	166
World's, The, Best Structural Timbers.....	198
World, The, Doing Five Things.....	126
Writing Orders Carefully and Correctly, The Importance of.....	210
Wuescher, M. L., Address, Claims and Disputes, Their Cause and Settlement.....	315

Y

Yards, Retail, What Mill Operators Might Learn at.....	246
Yard, Sawmill to	228
Yard Stock Grading Rules, Address by J. W. Martin.....	319
Yard Stock Grading by the Manufacturer.....	320
Yellow Pine, Annual Waste of, 25 Million Cords.....	233
Yellow Pine and Douglas Fir	275
Yellow Pine and Fir, Comparative Strength.....	90
Yellow Pine, Best Finishes for Interior Use, Address by R. H. Brooks.....	277
Yellow Pine Bridge and Trestle Timbers, Standard Specifications for.....	441
Yellow Pine Car Material Specifications	447
Yellow Pine, Enamel Finish for	279
Yellow Pine, Enamel for	381
Yellow Pine, Exploiting Southern, Address by W. H. Sullivan.....	305
Yellow Pine Exteriors, Painting	379
Yellow Pine, Finishing, A Technical Work on.....	330
Yellow Pine, Finishing Floors of	382
Yellow Pine, Handling, Made Difficult.....	365
Yellow Pine Has No Competitor in Price.....	368
Yellow Pine Interiors, Painting	380
Yellow Pine Is Best	179
Yellow Pine Lumber, Decay of, by Dr. H. von Schrenk.....	218
Yellow Pine Lumber, Southern, Grading Rules for.....	412
Yellow Pine Manufacturers, A Mistake of.....	365
Yellow Pine, Painting, a Lecture on.....	25
Yellow Pine, Painting and Finishing, Address by H. A. Gardner.....	378
Yellow Pine Properly Used, See That It Is.....	197
Yellow Pine Shingle, The	28
Yellow Pine Shingle, The, Address by J. H. Eddy.....	189
Yellow Pine, Staining and Varnishing	381
Yellow Pine, Study in Use.....	71
Yellow Pine the Leading Wood Now.....	363
Yellow Pine Timbers and The "Density Rule".....	461
Yellow Pine Timbers, Promoting	269
Yellow Pine, What Do You Know of the Wood?.....	294
Yield Per Acre a Large Factor.....	160

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